

Boston's Strong Economy - 2001

A strong economy continues in the new millennium



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Report #546
June 2001

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BOSTON'S STRONG ECONOMY – 2001

A Strong Economy Continues In The New Millennium

A summary and update of Boston's most recent economic conditions.

Boston's economy continues to grow, expanding each of the past nine years since 1993, even though incomplete indicators show a level of growth in 2000 somewhat below the strong pace in 1999.

The number of jobs in the city continued to rise to an all-time high and unemployment continued at a record low pace, thanks to the city's diverse economy that includes financial and business services, research and development, health care and higher education, tourism and retail trade. Boston's office, hotel, and housing markets are among the strongest in the nation.

The following report presents the major economic, demographic and market indicators that demonstrate the strength of the city's current economy and Boston's place as the engine of the state and regional economies as well.¹

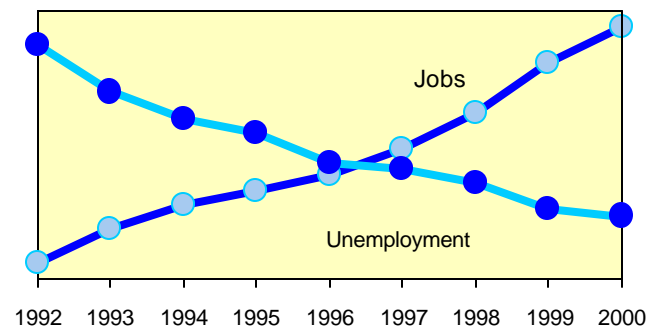
OVERVIEW OF CURRENT ECONOMIC CONDITIONS

Boston is the economic hub of both the Commonwealth of Massachusetts and the New England region. It is a center for professional, business, financial, governmental, higher educational and medical services, as well as transportation, communication, export, cultural and entertainment activities. Research and development, high technology, manufacturing and wholesale distribution also contribute to the economy of the city and its suburbs.

The current economic expansion is in its ninth year, having begun its comeback in 1993. The Boston economy continued to grow in the year 2000 even though incomplete indicators show a level of growth somewhat below 1999's meteoric pace. These economic indicators reveal continued growth in increased employment, declining unemployment rates, continued strong office, hotel and residential real estate markets, an estimated \$2.11 billion in private

development construction investment, and the continuation of several large public sector projects which will improve the infrastructure capacity of the city.

Boston's Jobs Reach All Time High - Unemployment Falls to Record Low



Over 104,000 jobs were added between 1993 and 1999; and preliminary numbers for 2000 show an increase of more than 123,000 jobs with the total number of jobs reaching over 700,000 - a modern high for the third year in a row. Unemployment continues to be low, with a 2.9% average rate for 2000 dipping to its lowest point in the 31 years of modern measurement.

Boston's office market demand remains high. With little exposure to the turbulent "New Economy" sector and a backlog of space requirements from traditional financial services and professional services firms, Boston continues to absorb new space even before it can be completed.

The downtown office market ended last year with a slim 1.5% overall vacancy rate. Class A vacancy was approximately 1.3% and net absorption in the city reached 2.2 million square feet as the Landmark Center and World Trade Center East opened their doors at 95% pre-leased. Average asking rents across all classes of space reached a record \$61.00 per square foot with Class A asking rents at \$70.00.

¹ The text and data for this report are based upon the City of Boston's bond prospectus from February 2001 but contain a summary section and include data for full year 2000 not yet available at that time.

Hotels continue to post high occupancy and room rates even with new rooms added to the stock. Residential real estate has posted increasing sales since 1992 and housing sales prices, stable in the 1989-1995 period, have shown substantial gains since then.

POPULATION

Boston's population reached 589,141 according to the 2000 U.S. Census, registering its second gain in the past two decades as testimony to Boston's economic and social strengths and its physical attractiveness. Boston's population has grown again by attracting young professionals from all over the country and by its role as a gateway city for new immigrants from all over the world.

Boston is the center of a metropolitan area of more than 3.4 million persons, and is the capital of the Commonwealth, which has over 6.3 million residents. Boston is also the center of the nation's seventh largest Consolidated Metropolitan Statistical Area, which stretches from Maine and New Hampshire down to Southeastern Massachusetts and Connecticut and contains 5.8 million people.

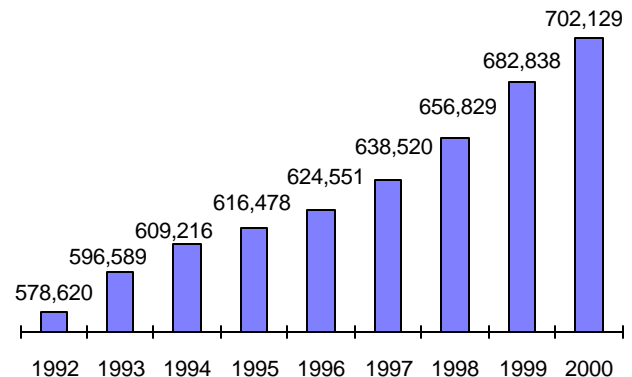
The population of Boston is young, in large part because of the high concentration of younger adults who come to the city to attend school or to work. Another characteristic of Boston's population is shown by the racial and ethnic diversity of its residents: the racial composition is 49.5% white and 50.5% minority. Hispanics and Asians are the city's fastest growing minority groups.

EMPLOYMENT

In 1998 the total number of jobs in Boston reached a modern high and in each of the past two years that high has been exceeded. The number of jobs in Boston reached an all-time high of 682,838 in 1999, a gain of 104,218 since the low point of the recession in 1992 and preliminary data for 2000 show the total number of jobs in Boston reaching over 702,000.

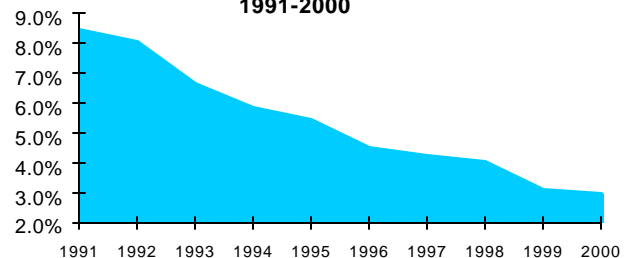
Boston's unemployment rate continues to decline. In 2000 Boston's annual average unemployment rate fell to 2.9%, the lowest rate in the 31 years of modern measurement and well below the recessionary peak of 9.5% reached nearly ten years ago in July 1991. The average annual number of persons unemployed has fallen from 25,186 in 1991 to only 6,772 in

Jobs in Boston 1992-2000



December of 2000. Boston's unemployment rate for 2000 was slightly above the Massachusetts rate of 2.6%, and well below the national unemployment rate of 4.0% in 2000.

Boston's Annual Average Unemployment: 1991-2000



COMMERCIAL MARKETS

Boston continues to show economic strength in the hotel, office, and retail market sectors.

HOTEL MARKET. Boston's strong hotel market has stimulated considerable new development. Since 1980, the number of hotel rooms in the city has nearly doubled, rising from 6,907 to 13,673 by December 1999. Despite the additional number of rooms, the average annual occupancy rates grew steadily from 72.3% in 1992 to 74.8% in 1999 and the average daily room rates rose from \$117.57 to \$188.82 during that same period. For 2000, occupancy was up to 78.6% and the average daily room rate was at \$200.10.

As of December 2000, three new hotels representing 473 new rooms were under construction, while applications to construct fourteen additional hotel projects with a total of 5,036 rooms had been filed requesting Boston Redevelopment Authority (BRA) approval.

OFFICE MARKET. Boston's office market is also one of the nation's strongest and currently contains 62.3 million square feet of office space. As of December 31, 2000, the overall vacancy rate was about 1.5%, the Class A vacancy rate was 1.3%. According to the CB Richard Ellis Office Vacancy Index, Boston's Downtown office market vacancy rate was second only to San Francisco.

In 1999, three major office projects were completed: the 400,000 square foot Lafayette Corporate Center at Downtown Crossing, the 480,000 square foot renovation of the Fargo Building on the South Boston Waterfront, and the renovation of 220,000 square feet at 255 State Street. In 2000, three additional office projects were completed: the 475,000 square foot World Trade Center East office tower on the waterfront, the renovation of the 200,000 square foot Renaissance Center near the Ruggles Stop on the Orange Line in Roxbury, and the 600,000 square foot Landmark Center reuse project in the Fenway.

As of December 2000, 15 office projects with 4.8 million square feet of new office space were under construction and scheduled for completion in the 2000-2003 time period, both downtown and in the neighborhoods. Another seven projects, which would add 4.6 million more square feet to the office supply, are in the planning stages.

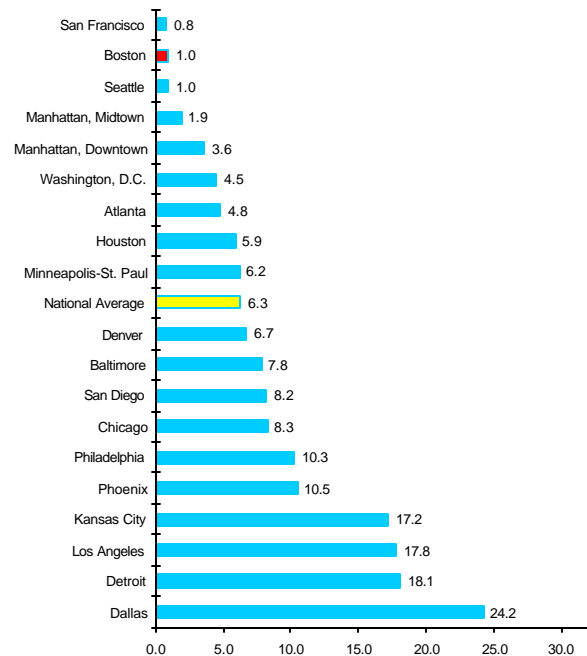
RETAIL MARKET. As of 1997, the date of the last U.S. Economic Census, Boston's metropolitan regional retail market was the ninth largest in the nation. Over 2,200 retail establishments were located in the city, containing 10 million square feet, and enjoying estimated total sales of \$5.6 billion.

Recent major retail projects opening downtown include Borders Books and several new stores in the Lafayette Corporate Center at Downtown Crossing. There are currently 200,000 square feet of retail and theater space under construction at the Millennium Place on lower Washington Street.

In the neighborhoods, the South Bay Center Mall, open 24-hours-a-day, is home to some of the highest grossing stores in the nation for an inner-city location and the newly-opened Landmark Center in the Fenway contains roughly 200,000 square feet of retail and theater space. Three buildings with first floor retail space are being renovated in Dudley Square and a new mini-mall has opened in Grove Hall. Nine new neighborhood supermarkets have been built throughout the city, two have been renovated, and nineteen

business districts are now participating in The Main Streets Program, a public-private initiative established in 1995 to revitalize neighborhood commercial districts.

Office Vacancy Rates for the 20 Largest Downtown Office Markets



HOUSING MARKET. According to the U.S. Bureau of the Census, the city's housing stock consisted of 250,863 units in April 1990.

After nearly six years of relative stability between 1991 and 1996, home prices have risen at a fast pace since the first quarter of 1996. The National Association of Realtors reported that the median sale price of existing homes in the Boston metropolitan area was \$290,000 for 1999, a 12.2% increase over 1998. The third quarter 2000 price was \$356,000, up 18.3% above the third quarter in 1999.

Within the city, residential sales prices have been increasing steadily since 1997. The median sales price for a single-family home in Boston reached \$209,000 in the second quarter of 2000, up 35% over two years. Condominium prices have also increased from \$179,000 in the second quarter of 1998 to \$221,000 in the second quarter of 2000, a 23% rise. Total home sales were 10.4% higher in 1999 than in 1998, but were off by -13.3% for January through October of 2000 compared to the same period in 1999.

As far as the rental market was concerned, a survey of the Rental Housing Association of the Greater Boston Real Estate Board found the 1998 rental vacancy rate was 2.12%, while a study done by the city's Department of Neighborhood Development showed that the median advertised rent for an apartment in Boston was \$1,495 per month for mid-year 2000, up from \$1,400 per month at mid-year 1999.

PRIVATE DEVELOPMENT

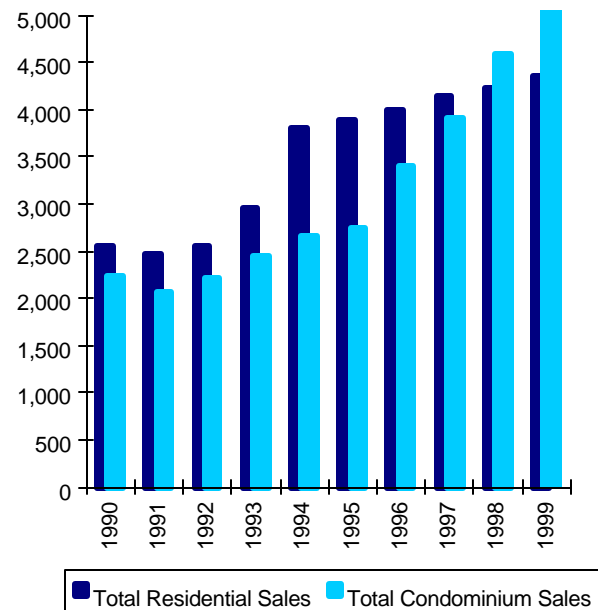
During the last four decades the public and private sectors have carried out a major expansion of capital construction and investment activities. Revenue from building permit activity fees during fiscal 2000 represented \$2.11 billion of total construction activity. Data from July through October 2000 showed projected building permit revenues running slightly ahead of the same period last year.

Development is presently centered on the three new hotels and 15 office projects under construction. Retail development is also moving forward with large mixed-use projects downtown and in the Fenway, a boom in construction of neighborhood supermarkets, and the revival of many neighborhood retail districts through the Main Streets program. Residential housing development is also taking place, of both "affordable" and "market rate" units.

Boston's medical and higher education institutional sectors also continue to invest in new facilities. As of December 2000, Tufts University was constructing a new \$40 million biomedical research building and nutrition center on Harrison Avenue, Children's Hospital had both a medical research building and a clinical building approved to start, and a number of other new buildings in the Longwood medical area were significantly along in the approval process.

Completed in 2000 were an 819-bed dormitory at Boston University, two smaller dormitories totaling 470 beds and a Science Center at Northeastern University. Currently under construction are dormitories at Massachusetts College of Art and Wentworth Institute, a new student center at the Harvard Business School. More projects at all these institutions and at Boston College have

Annual Residential and Condominium Sales in Boston: 1990-1999



received approval and will be starting construction soon.

Private development is also proceeding along the South Boston waterfront. In February, 1999, the Boston Redevelopment Authority presented a Seaport Public Realm Plan to guide future growth in the 1,000 acre South Boston Waterfront district of the city. In addition to a new Boston Convention and Exhibition Center, the plans calls for creation of an additional 16-21 million square feet of development, including 6,000 new hotel rooms, up to 8,000 units of housing (at least 10% of which will be affordable), and 44 acres of open space, including an extension of the city's HarborWalk. Already, new hotels and office buildings are open or under construction there, and proposals for further development are being proposed to city and state agencies.

In August 2000, state legislation was enacted authorizing public support for a plan by the Boston Red Sox to replace Fenway Park, its baseball stadium, with a new facility at the current site expanded to include adjacent areas. The legislation included provisions for the city to acquire and finance the site and the state to pay for transportation-related infrastructure improvements in the area. Subsequent to passage of this legislation, however, the current owners announced that the team is for sale.

New private development is expected to continue

during the next several years, with the strong economy stimulating demand, drawing down vacancy rates, and making new construction more desirable and financially feasible.

EMPOWERMENT ZONE DESIGNATION

In January, 1999, the City of Boston was designated an Empowerment Zone (EZ) community by the U.S. Department of Housing and Urban Development. The ten-year EZ designation brings with it \$130 million in tax-exempt bonding authority for qualified projects, and \$100 million in grants to support job creation, business development, home ownership opportunities, affordable housing creation, transit system improvements, computer technology training, and job training and educational efforts. The Empowerment Zone, wholly in Boston, is a 5.8 square miles area that includes parts of the neighborhoods of South Boston, Downtown, the South End, Roxbury, Jamaica Plain, and Mattapan, containing 57,640 residents – roughly 10% of the city's population.

LARGE PUBLIC SECTOR PROJECTS

Throughout the year 2004, Boston will continue to be the site of several major public sector projects which will significantly improve the infrastructure and increase the city's ability to attract and accommodate visitors.

NEW CONVENTION CENTER. The new 1.7 million square-foot Boston Convention and Exhibition Center will be built on a 60-acre site in South Boston through the joint efforts of the City of Boston, the Commonwealth of Massachusetts, the BRA, and the Massachusetts Convention Center Authority (MCCA). The facility will include approximately 500,000 square feet of contiguous exhibition space on one level, 150,000 square feet of meeting space and a 50,000 square foot ballroom, as well as banquet and lecture halls.

Under the legislation authorizing the development, the BRA has been responsible for site acquisition, demolition, site preparation, environmental remediation, and tenant relocation. The BRA has completed site acquisition for the BCEC, site preparation is on schedule, and tenant relocation is proceeding. The MCCA has announced a design plan for the BCEC and the project is currently expected to be completed and open for operation in 2004.

OTHER PROJECTS. As of June 30, 2000, the depression of the Central Artery, the section of U.S. 93 that runs through downtown Boston, together with and

the construction of the four-lane Ted Williams Tunnel under Boston Harbor in 1995 are now estimated to cost up to \$14.1 billion. It is estimated that these two transportation projects have employed about 5,000 on site workers and 10,000 auxiliary workers during the peak years of construction in 1998 through 2001.

The Massachusetts Water Resources Authority (MWRA) has recently completed construction of one of the largest wastewater treatment facilities in the nation, a \$3.9 billion project which is bringing wastewater discharge in Boston Harbor into compliance with federal and state requirements. The MWRA is planning to spend another \$1.9 billion on additional wastewater and water system improvements over the next ten years. While relatively small portions of these improvements are located in Boston, they should nonetheless provide major improvements in the system infrastructure that serves the city.

The Massachusetts Port Authority (Massport) has undertaken a long-range \$3.0 billion capital improvement program for its facilities, most of which are located in the city. Included is the \$1.0 billion Logan Airport modernization project, currently underway, which includes a new roadway system, 3,150 car parking garage, public transit terminal, 600-room hotel, as well as major terminal renovations and improved signs and walkways.

The Boston Housing Authority (BHA) is currently undertaking major revitalization initiatives at two of its public housing developments: Mission Main, in the Mission Hill neighborhood of Boston, and Orchard Gardens in Roxbury. The BHA received two HOPE VI grants from the Department of Housing and Urban Development, totaling \$80 million, to implement these initiatives, which are designed to revitalize not only the BHA sites, but the surrounding neighborhoods as well.

By providing new and improved housing, transportation, convention, and water treatment facilities, these major infrastructure projects will increase private development investment, resident jobs and wages, and spin-off spending throughout the local economy into the 21st century.

BOSTON'S STRONG ECONOMY – 2001

OVERVIEW

The city is the economic hub of both the Commonwealth and the New England region. It is a center for professional, business, financial, governmental, higher educational and medical services, as well as transportation, communications, export, cultural and entertainment activities. As a government center, the City is the state capital and is host to several federal offices. High technology, research and development, manufacturing, and wholesale distribution also contribute to the economy of the city and its suburbs.

The city is the twentieth largest city in the United States and the center of the seventh largest Consolidated Metropolitan Statistical Area (CMSA) in the nation, consisting of the Boston Primary Metropolitan Statistical Area (PMSA) plus the contiguous PMSAs of Brockton, Fitchburg-Leominster, Lawrence, Lowell, Manchester (NH), Nashua (NH), New Bedford, Portsmouth-Rochester (NH-ME), and Worcester (MA-CT). The Boston CMSA had a population of 5.8 million in 1999, as reported by the U.S. Department of Commerce, Bureau of the Census (the Bureau of the Census). According to the 2000 U.S. census, Boston has a population of 589,141. According to a report by the U.S. Bureau of Economic Analysis from data of the Massachusetts Department of Employment and Training, the city generates 682,838 jobs. The ratio of jobs to population indicates that the City provides a direct source of employment and income for an area that extends well beyond its borders. Measured in terms of jobs, the City's economy comprises approximately 21% of the Massachusetts economy and 10% of that of the six New England states.

Boston's current economic expansion is in its ninth strong year, having begun its comeback in 1993. The Boston economy continued to grow in the year 2000 even though incomplete indicators show a level of growth somewhat below that of the pace of 1999. As Boston enters the year 2001 some signs of a slowing economy are evident particularly at the state level which has more frequent and more thorough indicators of economic growth.

In 2000, the number of jobs in the City reached an all-time high as indicated by first-quarter statistics. Also, unemployment continued at a record low based on data through November. The City's diverse economy

based on financial and business services, research and development, health care and higher education, tourism and retail trade, continued to show strength. Boston's office, hotel, and housing markets were among the strongest in the nation.

Between 1992 and late 2000, Boston's economy has prospered following the 1988-1992 severe downturn. For example, Boston employment, which had declined by 70,283 jobs in the four years between 1988 and 1992, has not only gained back all of the losses but has exceeded them, as a total of 123,509 jobs were added in the 1993-2000 period, according to data from the U.S. Bureau of Economic Analysis. (Data for 2000 are preliminary.) Also, unemployment rates, which peaked during the first half of 1991 in the Commonwealth at 9.8%, in the Boston metropolitan area at 8.3%, and in the City at 9.5%, had all declined to levels between 1.7% and 2.3% in the Commonwealth, the Boston metropolitan area, and in the City by December 2000. Moreover, according to data regarding office market vacancy rates from CB Richard Ellis for the second quarter of 2000, Boston ranked second best among the 20 largest downtown office markets in the nation. Additionally, the total number of residential sales has improved markedly from 1992 through early 2000, as described more fully in "Housing Stock, Housing Values, and Development" below. Finally, building permit applications indicated the strongest level in construction in Fiscal Year 2000 (through June 2000) than at any time during the last ten years.

As noted above, there were at least six signs of slower growth in statewide measures in late 2000, particularly toward the end of the year. First, an index of business confidence for the state compiled by the Associated Industries of Massachusetts, reported significant declines in confidence in November and December of 2000. Second, employment for the state in November was just below the level in October (but by only 1,500 employees). Third, the unemployment rate for Massachusetts inched upward by 0.2 percentage points in November from the previous month, although it remained below the level for November 1999, using seasonally adjusted data. Fourth, an index of future economic growth compiled by the University of Massachusetts declined in November because of negative readings in eight out of ten components. Fifth, the Massachusetts combined sales- and income-tax revenues, which had risen sharply through most of the year, began to slide during the fourth quarter of 2000

compared with the same quarter for 1999. Finally, a plunge in the Bloomberg Index of Massachusetts stocks, showed up on the charts in November of 2000. All of these state indicators, together with some indications of an economic slowdown at the national level, portend that results for full-year 2000 will be below the 1999 levels and that growth in 2001 may be below the 2000 level.

This report presents the major economic, demographic, and market indicators for the Boston economy. For the most part, they demonstrate that the City's economy is strong and show that Boston continues to serve as the engine of the state and regional economy as well.

SOURCES OF STATISTICAL DATA ²

Statistical data relating to population, employment and income are derived primarily from four separate sources: the U.S. Bureau of the Census, the U.S. Bureau of Labor Statistics, the U.S. Bureau of Economic Analysis (the BEA), and the City of Boston/Boston Redevelopment Authority (the BRA), each of which is described below.

The U.S. Bureau of the Census publishes information about population, housing and the economy. Data from the 1990 Decennial Census of Population and Housing remains the most recent comprehensive demographic data for the City. In addition, some monthly and quarterly data are available through July 2000 on certain topics for the region, Massachusetts, and the Boston metropolitan area. The U.S. Bureau of the Census does not publish such interim data for the City.

The U.S. Bureau of Labor Statistics publishes data and reports about the workforce and related subjects including unemployment rates, area wages, and cost-of-living adjustments.

The U.S. Bureau of Economic Analysis publishes quarterly and annual statistics on income and employment. The most recent annual figures for the nation, New England and Massachusetts are from the November 2000 Regional Economic Information System (REIS) and from the June 2000 REIS revised series for the metropolitan counties and Suffolk County, which consists of the City plus the municipalities of Revere, Chelsea and Winthrop. The most recent quarterly statistics are for the first quarter of 2000. The City comprises approximately 87% of

Suffolk County's population and approximately 96% of its employment.

The City and the BRA prepare reports and compile data on the population and economy of the City and its neighborhoods. BRA also provides data and trends from various local, regional, state and national sources on such topics as employment and occupation, large employers, City schools, universities and colleges, medical institutions, tourism and lodging, transportation, office and industrial markets, housing, building activity and urban redevelopment and infrastructure projects.

Statistical data do not necessarily reflect current activity because of delays resulting from the time required to collect, tabulate and publish such data. While the City believes that it has used the most recent data readily available to it in the discussion in this section, because of such necessary delays, the data contained herein may not reflect current conditions or trends. Additionally, statistical data are approximations and generalizations subject to various sources of error inherent in the statistical process, and may be revised on the basis of more complete data. Within such limits, the statistical data contained herein describe past activity and are not presented with a view to predicting future economic activity either in particular categories or in general.

NEW ENGLAND, MASSACHUSETTS AND METROPOLITAN BOSTON ECONOMIES

New England comprises a six-state region that had a combined population of 13.5 million persons in 1999 and 8.61 million jobs in 1999 according to the U.S. Census Bureau and the Bureau of Economic Analysis annual data. For most of the 1980s, the rate of growth in total personal income, per capita income and population for New England was higher than the national average. In the 1988-1992 period, this trend reversed as the New England economy experienced a regional recession. Total personal income in New England grew at an annual average compound rate of 4.3% from 1990 through 1999, just below the 4.8% national rate for the same period. In the most recent period for which data is available, from second quarter 1999 through second quarter 2000, personal income in New England grew at a rate of 7.6%, which was above the national rate of 6.7%. Employment in New England, which grew by 1,388,668 jobs from 1982 through 1988 at a rate of 3.2% annually, declined by 454,323 jobs from 1988 through 1992 and then rose by 982,763 jobs from 1992-1999. Thus, the net job gain between 1982 and 1999 was 1,917,108 jobs, an annual average of 1.5%.

² This report draws from the City of Boston's official financial statement to Wall Street using the latest available statistics as of December 1999. The previous section of this report includes some more recent data.

**Table 1. Population, Income and Employment
1988, and 1995-1999**
(Income in current year dollars)

	1988	1995	1996	1997	1998	1999
United States						
Total Personal Income (\$000)	\$4,255,000,000	\$6,192,235,000	\$6,538,103,000	\$6,928,762,000	\$7,383,687,000	\$7,783,152,000
Per Capita Income (\$)	\$17,403	\$23,562	\$24,651	\$25,874	\$27,322	\$28,542
Population	244,499,00	262,803,276	265,228,572	267,783,607	270,248,003	272,690,813
Employment	134,517,900	149,358,800	152,607,200	156,228,200	160,242,200	163,759,900
New England						
Total Personal Income (\$000)	\$273,666,522	\$364,297,441	\$384,143,713	\$408,160,141	\$434,615,364	\$461,194,243
Per Capita Income (\$)	\$20,915	\$27,426	\$28,820	\$30,510	\$32,365	\$34,173
Population	13,084,523	13,282,700	13,328,837	13,378,075	13,428,630	13,495,933
Employment	8,082,456	7,950,401	8,084,631	8,251,642	8,450,925	8,610,896
Massachusetts						
Total Personal Income (\$000)	\$127,579,566	\$170,051,568	\$180,237,041	\$191,612,515	\$205,189,022	\$219,533,136
Per Capita Income (\$)	\$21,334	\$28,051	\$30,618	\$31,332	\$33,394	\$35,551
Population	5,979,983	6,062,335	6,085,393	6,115,476	6,114,407	6,175,169
Employment	3,770,718	3,686,055	3,752,171	3,844,956	3,948,363	4,017,841
Metropolitan Boston ⁽¹⁾						
Total Personal Income (\$000)	\$87,261,912	\$117,376,969	\$124,773,282	133,886,902	142,908,896	NA
Per Capita Income (\$)	\$23,045	\$30,766	\$32,549	34,731	36,896	NA
Population	3,786,629	3,815,127	3,833,386	3,854,933	3,873,298	NA
Employment	2,595,842	2,515,550	2,565,956	2,631,194	2,699,507	2,747,904

(1) This metropolitan area only includes five counties in Massachusetts (Essex, Middlesex, Norfolk, Plymouth and Suffolk) but excludes the one county in New Hampshire (Hillsborough) which together comprises the NECMA (New England Counties Metropolitan Area).

Source: U.S. Department of Commerce, Bureau of Economic Analysis, November 2000, Regional Economic Information System, and State Personal Income, for U.S., New England, and Massachusetts. Metropolitan Boston data for 1988 and 1995-1998 from BEA June 2000 revised series. Metropolitan Boston Data on Employment for 1999 is derived from the percentage change between 1998 and 1999 of the Bureau of Labor Statistics (BLS) "790 series" data for Non-Agricultural employment, applied to the 1998 BEA data.

The Massachusetts economy, with 6.18 million people in 1999 and roughly 4.02 million jobs in 1999, has shown the same three cycles of growth, recession, and growth over the 1982-1999 era. Total personal income grew at a 4.6% annual average rate from 1990 through 1999. From second quarter 1999 through second quarter 2000, it grew by 9.4%, significantly higher than the 6.7% national average. Massachusetts gained 613,667 jobs in the six-year period of 1982-1988, an average annual growth rate of 3.0%. It lost 258,552 jobs between 1988 and 1992 as high technology, defense and financial firms consolidated. From 1992-1999 job growth reemerged as 505,675 jobs were gained. The Commonwealth therefore had a net rise of 860,790 jobs during the period from 1982 through 1999, an annual average of 1.4%.

The five-county Boston metropolitan area (consisting of Essex, Middlesex, Norfolk, Plymouth, and Suffolk counties), that had 3.87 million people and 2.7 million jobs in 1998, has shown economic trends similar to those for the Commonwealth. Growth of 421,036 jobs from 1982 through 1988 was offset by the loss of 195,075 jobs from 1988 through 1992. The most recent data show a gain of 298,740 jobs for the 1992-1998 period. Table 1 shows the 1988, and 1995-1999 trends. Employment data for the City are set forth in Table 2.

EMPLOYMENT STRUCTURE, EMPLOYMENT TRENDS AND OCCUPATIONAL CHANGES

Between 1988 and 2000, City employment continued to shift from traditional labor intensive manufacturing jobs to technology and service jobs, as shown in Table 2. Over the past eleven years, the City's service industries, including transportation, communication, public utilities, finance, insurance and the full range of services, expanded their share of the City's total employment from 62.8% in 1988 to 67.1% in 2000, while the total employment in manufacturing and trade declined from 5.8% to 4.1%, and from 13.2% to 11.8%, respectively.

The economy of the Boston metropolitan area primarily rests on high technology, finance, professional and business services, defense, and educational and medical institutions. The City's economy is more specialized in the financial, governmental, business and professional services and educational and medical sectors than the suburban economy, which is more specialized in high technology and the defense industry. As used in this section, "professional services" includes business and professional services such as data processing, bookkeeping, new syndicates, law, accounting, engineering, advertising, and architecture. "Non-professional business services"

Table 2. City of Boston Employment, 1988, and 1995-2000 Selected Years by Industry

Industry	1988	1995	1996	1997	1998	1999	2000⁽¹⁾
Fishing/Mining/Agriculture	1,387	1,136	1,188	1,264	1,299	1,781	2,043
Construction	16,519	13,162	12,928	13,678	15,811	19,715	20,940
Manufacturing	34,922	29,014	29,039	28,425	29,502	28,244	28,858
Transportation/Communication/ Utilities	37,765	36,389	36,059	36,767	36,800	36,753	38,825
Wholesale Trade	23,273	16,366	16,304	16,178	16,585	16,326	16,670
Retail Trade	62,713	60,826	62,262	62,774	64,856	66,539	66,504
Finance/Insurance/Real Estate	104,310	93,730	97,168	101,257	104,352	107,959	108,459
Banking	30,140	23,347	20,386	21,491	22,586	22,890	25,042
Securities	21,237	31,824	38,743	42,171	44,994	47,064	45,820
Insurance	33,867	25,325	24,058	23,423	22,175	22,861	21,578
Real Estate and Other	19,067	13,234	13,980	14,172	14,595	15,144	16,134
Services	265,281	273,815	280,618	288,866	296,767	312,157	323,804
Hotel	12,539	11,384	11,250	11,260	11,937	12,617	13,561
Health	75,977	88,202	90,722	92,075	93,544	95,767	100,077
Educational	30,902	31,752	31,923	31,372	31,950	32,105	32,213
Cultural	9,582	8,935	9,564	10,096	10,417	10,115	10,539
Social and Non-profit	23,134	23,334	23,243	24,067	24,517	25,394	26,772
Professional	62,997	63,115	64,440	67,899	71,315	75,336	76,743
Non-Professional Business	37,296	35,983	38,184	40,250	40,818	47,520	49,633
Personal and Repair	12,855	11,110	11,292	11,846	12,271	13,302	14,340
Government	102,933	92,040	88,984	89,310	90,857	93,363	96,026
Total	649,103	616,478	624,551	638,520	656,829	682,838	702,129

(1) The only data for 2000 are for the first half of the year from the ES-202 series which when translated into the BEA format and annualized results in a yearly estimate of 702,129 jobs, a 19,291 job gain from 1999 and a rate of 2.8%. Since this is only based on two quarters of the year, this estimate is just noted here as preliminary and subject to confirmation when more data from the remainder of the year is reported.

Source: 1988-1999 figures are mathematically derived from U.S. Bureau of Economic Analysis Series for Suffolk County ("BEA Regional Economic Information System 1969-1998, June 2000") pro-rated to Boston geography. 1999 data are based on Massachusetts Division of Employment and Training ES-202 series (this series represents payroll jobs covered by the unemployment security system). These Boston employment data are used to derive an equivalent 1999 BEA series (for all jobs, full and part-time). Due to use of pro-rating factors, minor discrepancies of 1 to 3 units between totals and employment categories may result.

includes building maintenance, security guards, duplicating services, etc.

Table 2 shows Boston's employment growth by industry category over the twelve-year period 1988-2000. Significant gains by industry are noted in the financial securities, health, educational, social, non-profit, cultural, non-professional business and professional services sectors while sizable losses are evident in manufacturing, wholesale trade, banking, insurance, and government.

The Boston metropolitan area comprises about two-thirds of the Massachusetts state economy, which is interrelated with the economies of the other New England states. Consequently, the City's job changes over the last three cycles of growth (1982-1988), recession (1988-1992), and growth (1992-1999) must be viewed in a regional context. Table 3 charts employment changes over the three regional business cycles. It clearly shows how severe the effect of the 1988-1992 recession had been on the regional economy, but also shows how strong the economic

Table 3. Job Change in the New England Region, 1982-1999

Area	1982-1988		1988-1992		1992-1999		1982-1999	
	Total Job Change	Percentage Change	Total Job Change	Percentage Change	Total Job Change	Percentage Change	Total Job Change	Percentage Change
New England	1,388,668	20.7	(454,323)	(5.6)	982,763	12.9	1,917,108	28.6
Massachusetts	613,667	19.4	(258,552)	(6.9)	505,675	14.4	860,790	27.3
Metropolitan Boston ⁽¹⁾	436,842	20.2	(195,075)	(7.5)	347,137	14.5	573,545	26.4
City of Boston	78,995	13.9	(70,283)	(12.1)	104,218	18.0	112,730	19.8

(1) This metropolitan area includes the following five Massachusetts counties: Essex, Middlesex, Norfolk, Plymouth and Suffolk.

Source: U.S. Bureau of Economic Analysis (BEA) for New England and Massachusetts's 1982-1999 November 2000 revised series. U.S. BEA for Metropolitan Boston 1982-1998, June 2000 series. 1999 data for Metropolitan Boston is derived from the percentage change between 1998 and 1999 of the Bureau of Labor Statistics (BLS) "790 series" data for Non-Agricultural employment, applied to the 1998 BEA data.

U.S. BEA for City of Boston, derived from the Suffolk County series for 1982-1998, and estimated for 1999 using Department of Employment and Training (DET) data as described under "City of Boston Employment 1988, and 1994-1999 Selected Years by Industry".

Table 4. Occupational Change in the City's Resident Labor Force

	1960		1970		1980		1990	
	Number	%	Number	%	Number	%	Number	%
White-Collar	126,471	44	146,657	55	154,456	60	191,251	67
Professional & Technical	33,476	12	44,894	17	51,979	20	65,251	23
Managerial	15,604	5	15,035	6	25,238	10	41,955	15
Clerical & Administrative	58,990	21	71,655	27	58,451	23	56,950	20
Sales	18,401	6	15,073	6	18,788	7	27,095	9
Blue-Collar	96,576	34	75,160	28	54,452	22	47,498	16
Craftsmen	32,398	11	27,157	10	19,772	8	18,453	6
Operatives	52,175	18	36,695	14	24,825	10	19,971	7
Laborers & Farm	12,003	4	11,308	4	9,855	4	9,074	3
Service	38,034	13	44,688	17	47,109	18	49,955	17
Not Reported	27,115	9	—	—	—	—	—	—
Total	288,196	100%	266,505	100%	256,017	100%	288,704	100%

Source: U.S. Department of Commerce, Bureau of the Census for 1960, 1970, 1980 and 1990.
Percentages may not add due to rounding.

recovery has been since 1992. The growth of 78,995 jobs during the period of rapid growth (1982-1988), was offset by the loss of 70,283 jobs during therecessionary period (1988-1992). Trends during the present expansion (1992-1999) show a gain of 104,218 jobs. The city, metropolitan Boston, the state, and New England have all experienced net job growth over the seventeen-year period.

As of 1990, 67% of City residents were white-collar workers, 17% were service workers and 16% were blue-collar workers, as compared to 60% white-collar workers, 18% service workers and 22% blue-collar workers in 1980. As shown in Table 4, this trend among City residents away from blue-collar occupations and toward white-collar and service occupations has continued since 1960. Job losses during the 1988-1992 recession, as reflected in occupational employment data for the Boston metropolitan area by the Massachusetts Department of Employment and Training, show about equal losses for white-collar and blue-collar employees.

UNEMPLOYMENT

The annual average unemployment rate for the City in 2000 was 2.9%, the lowest rate since 3.2% in 1987.

The City's unemployment rate in 2000 was slightly above that of Massachusetts at 2.6%, and far below the national rate of 4.0%. As Tables 5 and 6 illustrate, 2000 monthly unemployment data showed a general improvement over results from those for 1999 and 1998. The average annual number of people unemployed in the City through the end of December 2000, is only 6,772. The 1990 Census data for Boston, which differ from the Bureau of Labor Statistics rates shown below due to sample size, showed that when Boston's total unemployment rate was 8.3%, the rate for whites was 6.4%, the rate for all minority groups combined was 12.6%, and the rate for all youth aged 16-19 years was 18.9%. This pattern is typical of many of the nation's urban centers.

LARGEST EMPLOYERS

Table 7 lists fifty-eight of the largest private employers in Boston, which had an aggregate of approximately 144,000 employees in 2001, or about 24% of private sector employment.

In addition, the public sector has large numbers of employees in the City. According to the BRA, using a series consistent with the Bureau of Economic Analysis, there were 96,026 government workers in the

Table 5. Annual Unemployment Rates

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
City of Boston	5.7%	8.6%	8.0%	6.6%	5.8%	5.4%	4.4%	4.2%	3.4%	3.3%	2.9
Boston PMSA (1)	5.3	7.8	7.6	6.0	5.2	4.7	3.7	3.4	2.8	2.7	2.2
Massachusetts	6.0	9.1	8.6	6.9	6.0	5.4	4.3	4.0	3.3	3.2	2.6
New England	5.7	8.0	8.1	6.8	5.9	5.4	4.8	4.4	3.5	3.3	2.8
United States	5.6	6.8	7.5	6.9	6.1	5.6	5.4	4.9	4.5	4.2	4.0

(1) Primary Metropolitan Statistical Area, consisting of the City and 129 contiguous municipalities, with a population of approximately 3.2 million in 1990 according to U.S. Census data.

Sources: U.S. Bureau of Labor Statistics for U.S., New England and state and Mass. Division of Employment and Training for city and Boston PMSA

Table 6. Monthly Unemployment Rates for Boston, Boston PMSA, Massachusetts, New England and the United States for 1998, 1999 and 2000 ⁽¹⁾

	Boston			Boston PMSA ⁽²⁾			Massachusetts			New England			United States		
	1998	1999	2000	1998	1999	2000	1998	1999	2000	1998	1999	2000	1998	1999	2000
Jan.	3.9%	3.5%	3.5%	3.4%	3.1%	3.0%	4.3%	3.9%	3.7%	4.6%	4.0%	3.8%	5.2%	4.8%	4.5%
Feb.	3.5	3.1	3.0	3.1	2.8	2.7	3.9	3.5	3.3	4.4	3.9	3.7	5.0	4.7	4.4
Mar.	3.6	3.2	2.9	3.1	2.8	2.4	3.9	3.6	3.0	4.1	3.7	3.2	5.0	4.4	4.3
Apr.	3.1	2.9	2.6	2.5	2.4	2.1	3.0	2.9	2.4	3.4	3.1	2.7	4.1	4.1	3.7
May	3.4	3.1	2.7	2.7	2.5	2.0	3.2	3.0	2.4	3.4	3.2	2.7	4.2	4.0	3.9
Jun.	3.8	3.6	3.3	2.9	2.9	2.4	3.4	3.3	2.8	3.5	3.4	2.9	4.7	4.5	4.2
Jul.	3.7	3.7	3.3	2.8	2.9	2.4	3.3	3.3	2.8	3.3	3.2	2.7	4.7	4.5	4.2
Aug.	3.4	3.5	2.9	2.6	2.7	2.1	3.0	3.0	2.4	3.1	3.0	2.4	4.5	4.2	4.1
Sep.	3.8	3.7	3.2	3.0	2.9	2.2	3.4	3.2	2.6	3.3	3.0	2.4	4.4	4.1	3.8
Oct.	3.1	3.3	2.7	2.5	2.6	1.9	2.9	2.9	2.2	3.1	3.0	2.2	4.2	3.8	3.6
Nov.	2.9	3.2	2.6	2.4	2.5	1.9	2.8	2.9	2.2	3.1	3.0	2.2	4.1	3.8	3.8
Dec.	2.8	2.9	2.3	2.3	2.4	1.7	2.8	2.8	2.0	3.0	2.9	2.1	4.0	3.7	3.7

(1) Unemployment rates are not seasonally adjusted. Most recent data are preliminary and subject to revision.

(2) Primary Metropolitan Statistical Area, consisting of the City and 129 contiguous municipalities, with a population of approximately 3.2 million in 1990 according to U.S. Census data.

Sources: U.S. Bureau of Labor Statistics for United States, New England and Massachusetts and Massachusetts Division of Employment and Training for the City and Boston PMSA.

City in 2000, a reduction of 6,907 from 1988. Certain state government offices, federal regional offices, U.S. Postal Service facilities, state-chartered authorities and commissions, such as Massport and the MBTA, and the City's local government are all located within the City.

LABOR FORCE AND EDUCATION

According to U.S. Department of Commerce, Bureau of the Census, the City's resident labor force declined during the 1970s but increased during the 1980s. In

Table 7. Largest Private Employers in the City of Boston
(listed by number of employees)

Massachusetts General Hospital	14,907	Faulkner Hospital	1,166
Fidelity Investments (FMR Corp.)	11,250	Stop & Shop Supermarkets	1,144
Beth Israel Deaconess Medical Center	8,568	WGBH	1,138
Brigham and Women's Hospital	8,421	New England Baptist Hospital	1,128
Boston University	8,297	Brown Brothers Harriman	1,063
Children's Hospital	5,116	Federal Reserve Bank of Boston	1,161
New England Medical Center	5,077	Boston Marriot Copley	957
John Hancock (Financial Ser. & Signature Ser.)	4,793	Arthur Anderson LLP	950
Boston Medical Center	4,650	Goodwin Procter	949
Harvard (Business and Medical Schools)	4,557	Houghton Mifflin	943
State Street Corp.	4,184	United Airlines	936
Boston College	3,882	Ropes and Gray	916
Northeastern University	3,751	Digitas Inc.	915
Gillette Company	3,566	Visiting Nurses Association	905
Nstar (formerly Boston Edison)	3,298	Deloitte & Touche LLP	905
St. Elizabeth's Medical Center	3,077	Boston Herald	856
Massachusetts Financial Services	2,511	Zurich Scudder Investments	850
New England Financial	2,060	Blue Cross/ Blue Shield	847
Dana Farber	1,996	Ernst & Young LLP	829
Delta Airlines	1,782	Suffolk University	807
Shaw's	1,690	American Airlines	803
Thomson Financial Services	1,665	Pinkerton Security	794
Fleet Boston Financial	1,542	Sheraton Boston Hotel and Towers	700
Filene's	1,518	Keyspan (formerly Boston Gas)	689
Carney Hospital	1,494	Back Bay Restaurant Group	668
Putnam Investments	1,369	Mellon Financial Company	622
Liberty Mutual	1,305	The Westin Hotel	550
USAir	1,303	AT&T Broadband (formerly Cablevision)	520
Mass. Eye and Ear Infirmary	1,246		
Northwest Airlines	1,211	Total	144,930

Note: The following large Boston companies were surveyed but did not respond. UNNICO Services (2,850), Liberty Financial Cos. Inc. (2,050), Teradyne Inc. (1,800), Commercial Union Insurance (1,342), Citizens Bank (733), Pricewaterhouse Coopers LLP (2,458), Boston Consulting Group (1,720), The Boston Globe (2,250), Verizon (NA), Macy's (NA). Accompanying some is the number of employees as listed in the Boston Business Journal (except for the Boston Globe, which is taken from the 1997 report). The numbers shown, however, may not necessarily reflect employees in Boston alone.

Source: Survey by BRA/EDIC, conducted in 2000-2001

Table 8. Years of School Completed for Boston Residents Age 25 and Over, 1970-1990

	1970		1980		1990	
	Persons	Percent	Persons	Percent	Persons	Percent
0-8 years	91,582	26.1%	54,932	16.6%	37,824	10.3%
1-3 years of high school	71,511	20.4	49,407	14.9	51,051	14.0
High school graduate	120,350	34.3	115,787	35.0	97,233	26.6
1-3 years college	30,876	8.8	43,451	13.2	69,889	19.1
4 or more years of college	36,245	10.4	67,073	20.3	109,711	30.0
Total	350,564	100.0%	330,650	100.0%	365,708	100.0%

Source: U.S. Department of Commerce, Bureau of the Census; 1970, 1980 and 1990.

contrast to the 12% decline in population between 1970 and 1980, the City's labor force (those residents aged 16 and over, available to work) declined by only 4%. The difference in these rates of decline was attributable to the fact that the decline in population was concentrated in the under-16 age group. Since 1980, both the increasing population and its increasing age have combined with the rising labor force participation of women, minorities, youth and the elderly to produce a larger labor force. By 1990, the City's population had increased by 2% over 1980 levels, while the City's labor force increased by 12.8% in the same period, according to data from the U.S. Bureau of the Census.

General improvement in educational attainment of resident's aged 25 and over continued throughout the 1970-1990 period. The percentage of this population that had completed four or more years of college almost tripled during this period from 10.4% to 30%. This change, in part, reflected the trend for an increasing percentage of graduates of the City school system to seek higher education. This percentage increased from 25% in 1960 to 36% in 1970, 44% in

1977, 54% in 1982 and 66% in 1990 and declined slightly to 60.6% in 1997, based upon Boston School Department figures. Improving educational attainment levels and shifting occupational patterns suggest a concurrent transformation of the City's work force as the City's economy has moved to a service-dominated base.

The City supports entry-level and advanced job training programs, including the following: English-as-a-Second Language training, pre-vocational and vocational training, adult literacy training, and support counseling. In addition, linkage contributions paid into the Neighborhood Jobs Trust provide a supplemental source of funding for job training programs. For a full discussion of the City's housing and jobs linkage program see "The Linkage Program"

INCOME, WAGES, AND COST OF LIVING

Per capita personal income for Suffolk County was \$37,844 in 1998, 39% above the national per capita personal income of \$27,203, according to the U.S. Bureau of Economic Analysis. An historical summary

Table 9. Per Capita Personal Income Comparison, 1970, 1980, and 1988-1999
(in current year dollars not adjusted for inflation)

	United States	New England	Massachusetts	Metro Boston (1)	Suffolk County (2)
1970	\$ 4,095	\$ 4,453	\$ 4,486	\$ 4,515	\$ 4,652
1980	10,183	10,701	10,673	10,806	10,477
1988	17,403	20,915	21,334	21,746	21,097
1989	18,566	22,200	22,458	22,829	23,118
1990	19,584	22,900	23,223	23,559	24,873
1991	20,098	23,257	23,749	24,078	25,909
1992	21,082	24,452	24,876	25,271	27,628
1993	21,718	25,208	25,664	26,028	28,607
1994	22,581	26,229	26,841	27,251	30,239
1995	23,562	27,426	28,051	28,520	31,311
1996	24,651	28,820	29,618	30,096	33,301
1997	25,924	30,676	31,592	32,133	35,653
1998	27,203	32,373	33,496	34,127	37,844
1999	28,542	34,173	35,551	NA	NA

(1) Metropolitan Boston denotes the New England County Metropolitan Area (NECMA), which is larger than the Primary Metropolitan Statistical Area (PMSA). The NECMA consists of five Massachusetts counties and Hillsborough County in New Hampshire.

(2) City residents constitute approximately 87% of Suffolk County's population.

Source: U.S. Dept. of Commerce, Bureau of Economic Analysis, June 2000 revised series, Regional Economic Information System for Metro Boston and Suffolk County and November 2000 series for the U.S., Massachusetts and New England.

Table 10. Population of Massachusetts, Metropolitan Boston, and the City of Boston 1970, 1980, 1990 and 2000⁽¹⁾

	1970	1980	1990	2000	1970-80 Population Change	Percent Change	1980-90 Population Change	Percent Change	1990-2000 Population Change	Percent Change
Massachusetts	5,689,170	5,737,037	6,016,425	6,349,097	47,867	0.8%	279,388	4.9%	332,672	5.5%
Metro. Boston ⁽²⁾	2,899,101	3,149,000	3,227,707	3,406,829	(3)	(3)	78,707	2.5	179,122	5.5
City of Boston	641,071	562,994	574,283	589,141	(78,077)	(12.2)	11,289	2.0	(14,858)	(2.6)

(1) PL94-171 census redistricting data from 2000 Census.

(2) Boston PMSA.

(3) Because of a metropolitan area boundary change from Standard Metropolitan Statistical Area (SMSA) to PMSA, the 1970-1980 change is not shown.

Source: U.S. Department of Commerce, Bureau of the Census

of per capita income shows that from 1980 to 1990 Suffolk County's per capita income grew at a rate greater than that for the nation, in contrast to the 1970-1980 period when it rose at a slower rate. Suffolk County's per capita income grew at a faster rate than the per capita income growth rates for the United States, New England, and Massachusetts and just barely below the rate of growth for Metropolitan Boston (as defined in Table 9) between 1990 and 1997. The City's median household income (in current year dollars), based on U.S. Census data, rose from \$7,835 in 1970, to \$12,530 in 1980 and \$29,180 in 1990. Median household income in 1997 for Suffolk County (of which Boston is 87% of population.) was estimated at \$36,260 in current dollars. The figures in this paragraph and the chart directly below reflect earned income of persons residing in the named areas plus rents, interest and other unearned income and transfer payments from governmental entities. As such, these figures take into account certain income sources not included in the survey of average annual wages in the following paragraph, which reflects earned income of persons who work (but do not necessarily reside) in the named areas.

June 2000 data from the U.S. Bureau of Economic Analysis indicate that average annual earnings per job for 1998, by place of work, have been consistently higher over time in Suffolk County than in the Boston metropolitan area and the Commonwealth. Suffolk County's average earnings per job (\$52,521) was 31% greater than that in the Boston metropolitan area (\$40,004) and 34% greater than the average state earnings level (\$39,132). The average annual earnings per job reflect the combined income earned by individuals at their place of work for all industries combined.

During the years 1991-1999, based on the U.S. Bureau of Labor Statistics Consumer Price Index, the cost of living index rose at an annual average rate of 2.68% in the Boston metropolitan area, while the national index increased at a 2.74% annual rate. From November 1999 to November 2000, the cost of living in the

Boston metropolitan area rose 4.6%, compared to a 3.4% rate for the nation.

POPULATION

According to the 2000 U.S. Census, Boston has a population of 589,141, a 2.6% increase over 1990. and second consecutive decade in which the city's population has grown.

MEDICAL AND HIGHER EDUCATIONAL INSTITUTIONS

Boston's medical and educational institutions are an important component of its economy, providing employment opportunities for residents of the City and the Boston metropolitan area. Expenditures by the institutions' patients, students and visitors are important to the City's trade and service sectors.

Twenty-five inpatient hospitals are located within the City, including Massachusetts General Hospital, Brigham and Women's Hospital, Beth Israel/Deaconess Hospital, Children's Hospital, the New England Medical Center and Boston Medical Center. The City is also the home of the medical and dental schools of Harvard, Tufts and Boston Universities, and of twenty-five public neighborhood health clinics, not including health maintenance organizations and membership clinics.

In 1999, there were an estimated 95,767 persons employed in health services in the City, based on a series consistent with U.S. Bureau of Economic Analysis data. Health services represent over 1 out of every 7 jobs within the City. Growth in the health services sector has been stable, despite varying economic conditions. Data from the U.S. Bureau of the Census, County Business Patterns, showed that the number of hospital employees in Suffolk County between 1988 and 1998 grew from 44,690 to 53,379.

According to the BRA, the City's hospital and medical school community invested close to \$1.1 billion in new

facilities from 1984 to 1999. Large new projects were completed over the 1984-1996 period at the following City hospitals: Massachusetts General Hospital, Beth Israel/Deaconess Hospital, Brigham and Women's Hospital, Boston Medical Center, St. Elizabeth's and New England Medical Center. In 1996-1997 several hospital projects were completed including a Dana Farber research building and a Beth Israel ambulatory care facility. In 1999 the Shriner's Burns Institute's new building and the Franciscan Hospital gymnasium were just completed.

As of December 2000 there was one hospital project and a variety of medical research projects under construction or set to begin. Under construction is Tufts University's \$40 million biomedical research building and nutrition center of 145,000 square feet on Harrison Avenue. In the Longwood area, Children's Hospital has two buildings approved to start: a medical research building of 245,000 square feet is scheduled to begin in 2001 and a clinical building of 194,000 square feet will begin construction in 2002. Also in the Longwood area, the Harvard Institutes of Medicine is in the second phase of the redevelopment of the old English High into medical research space with a 435,000 square-foot building. In addition, Emmanuel College has two medical research buildings in the review process: a building of 320,000 square feet to be occupied by the Merck pharmaceutical company with construction to start in February 2001 and a speculative research building of 186,000 square feet which is expected to start construction in 2003. Massachusetts General Hospital also has a 600,000 square foot ambulatory care facility in the review process, with construction expected to start in 2001.

Over the past eight years, there have been major hospital and health care mergers, acquisitions, and affiliations in the Boston area. During 1998 and 1999 several hospitals and health care providers have reported financial difficulties mainly due to the problems associated with rapid expansion, containment of health care costs, the changing nature of Medicare and Medicaid funding, and the effects of the Balanced Budget Act on revenues. In early 2000 Beth Israel/Deaconess announced a planned cutback of 6.5% in operations which would mean the elimination of about 500 non-medical jobs.

Based on data from the National Institutes of Health for fiscal 1999, the City is the nation's largest center for health research, topping New York City for the fourth consecutive year. For fiscal 1999, the medical research institutions within Boston received \$947 million in National Institutes of Health awards. This was a 12% increase from fiscal year 1998. According to the

National Institute of Health Division of Research Grants, six of the seven independent hospitals in the nation which received the most National Institutes of Health research funding in fiscal 1998 were located in the City. In addition to public monies for medical research the Boston institutions also have private funding sources through agreements with private sector firms.

Boston is one of the nation's largest centers of medical research activities and biotechnology industries. In Massachusetts, one of the leading biotechnology centers in the United States, there were over 215 companies engaged in research and development and manufacturing of biotechnology products as well as scientific, equipment, supplies and support services to the industry in 1998 according to the Massachusetts Biotechnology Council. The Ernst & Young annual biotechnology industry report, "Convergence, Millennium Edition, 2000," showed the New England Region as the nation's second largest center for biotechnology by number of publicly-traded companies (53), total assets (\$7.3 billion), and R&D spending (\$1.5 billion), as well as the nation's third largest center as ranked by product sales (\$2.3 billion), and total revenues (\$3.2 billion) and the nation's fourth largest center as ranked by employees (18,395).

As of academic year 1998-99, the New England Board of Higher Education reported 88 colleges and universities in the Boston metropolitan area (PMSA), at which approximately 298,673 students were enrolled. The City's 39 universities, colleges and community colleges had a combined enrollment in fall 1998 of approximately 135,771, a 6.6% gain from fall of 1990. These numbers include some graduate schools of Harvard and Tufts Universities, whose principal campuses are in Cambridge and Medford, respectively, which had 4,816 students in the City in 1998. Based on total graduate and undergraduate enrollment, Boston University is the largest university in Boston, with 29,131 students in fall 1998.

Educational institutions are a source of new highly skilled professionals for the City's labor force. For example, according to the Massachusetts Institute of Technology, although only 10% of its enrollees over the decade of the 1980s were from the Boston area, 24% remained in the area after graduation.

From 1991 through 1998, large projects at educational institutions in the City accounted for approximately \$300 million of investment, according to the BRA. These included new construction at Boston University, Northeastern University, Tufts University, Boston College, the Massachusetts College of Pharmacy, and

Harvard University, as well as major renovations by Emerson College and Suffolk University. Recently completed projects include: the Boston University School of Management and the Photonics Center; Emerson College dormitory and administration space in renovated buildings, Suffolk University dormitory space; and, at Northeastern University, the Marino Recreation Center and a new Engineering and Science building. Completed in 1999 was the new \$65 million Suffolk University Law School on Tremont Street in downtown Boston and a new dormitory at Northeastern University with 630 beds. Completed in 2000 were an 819-bed dormitory for Boston University and two smaller dormitories at Northeastern University with a total of 470 beds. Currently under construction are two more dormitories, at Massachusetts College of Art and at Wentworth Institute. At the Business School campus of Harvard University, where a five-year expansion and retrofit program is underway, new executive student housing is now complete, a new student center is nearly complete, and a graduate school housing and academic building project were recently approved by the BRA and will begin construction in 2001. Northeastern University has under construction a complex which includes a Science Center, a dormitory, and a parking facility. In addition, Boston College is scheduled to start construction of an administration building in the second quarter of 2001 and has recently received approval for a new dormitory.

TOURISM

According to the Greater Boston Convention and Visitors Bureau (CVB), an estimated 12.9 million people visited the Boston metropolitan area in 2000, up by 8.4% from the 11.9 million visitors in 1999 and up 25.2% from the 10.3 million visitors in 1995. These data represent visitors, measured as tourists, business travelers and convention and meeting delegates who traveled at least 100 miles to get to the City. The latest data on the economic impact of tourism from the CVB shows that, for the five county region of greater Boston, visitors spent an estimated \$7.1 billion for hotel accommodations, meals, entertainment, shopping, transportation and other services during 1999.

In recent years several large tourist events have taken place in Boston. In July 1992, Sail Boston, the tall ships flotilla, drew an estimated 6 million attendees, including visitors (as defined above) and local residents who directly spent an estimated \$315 million in restaurants, shops, and hotels with a total estimated economic impact of \$500 million. During the summer of 1994, greater Boston was a regional host of the World Cup soccer championship. In April 1996, the 100th anniversary of the Boston Marathon attracted a record

field of 38,708 runners and an estimated 750,000 spectators along the route, with 150,000 of them at the Copley Square finishing line. In August 1998 the 200th Anniversary of the refurbished frigate USS Constitution, "Old Ironsides," was celebrated with a gala three-day event with other tall ships from around the world in attendance. Also in 1998, the "Monet in the 20th Century" exhibition at the Museum of Fine Arts, the only showing in the United States, topped all museum exhibits in the United States with almost 566,000 visitors. In 2000 the City held a large celebration, Millennium 2000, lasting several days, and also in July 2000 the City held Sail Boston 2000, which attracted over 4 million people to the waterfront for a parade of Tall Ships. Every year there are a wide variety of special events in Boston including food, cultural, and musical events, ethnic celebrations, harbor, seaport and river festivals, parades, and collegiate and professional sporting contests which attract many visitors. In 1997 there were an estimated 75 such events in addition to the regular schedules of the three major professional sports teams—the Boston Red Sox baseball team, the Boston Bruins hockey team and the Boston Celtics basketball team. The City provides a venue for concerts, ice shows, circuses, plays, and other entertainment and sports events. The Fleet Center, a new privately financed, multi-purpose arena in Boston's North Station District constructed by the New Boston Garden Corporation, a subsidiary of Delaware North, owner of the existing Boston Garden/North Station, opened on September 30, 1995.

Boston is an attractive destination for conventions, meetings, and gate shows. Currently Boston has three small and medium convention sites: the John B. Hynes Veterans Memorial Convention Center, the World Trade Center and the Bayside Exposition Center. Together, these facilities have a combined full capacity of over one million people per year. In addition, as more fully described below, the Massachusetts Convention Center Authority (MCCA) and the City are developing a new 1.7 million square-foot convention and exhibition center in Boston that will provide facilities suitable for large national conventions. In 1999 there were 300 events—meetings, conventions, and expositions—over the course of the year in greater Boston. Included were 19 citywide conventions; these are defined as events that would each use over 2,000 hotel rooms on the peak night, which usually requires at least three hotels. In 2000 Boston hosted 2.79 million convention and meeting visitors. In 2000 there were 23 citywide conventions, ranging in size from 3,000 attendees to 27,000. There were also 64 college commencements scheduled for a six week period in May and June.

On November 17, 1997, the Massachusetts General Court authorized the joint development by the City, acting through the BRA, and the MCCA of a Boston Convention and Exhibition Center (BCEC) to be constructed on a 60 acre site on Summer Street in South Boston in the South Boston Seaport District. The 1.7 million square-foot facility, which is expected to open for operations in fiscal year 2004, will include approximately 600,000 square feet of contiguous exhibition space on one level, 200,000 square feet of meeting space and a 50,000 square-foot ballroom as well as banquet and lecture halls, and indoor underground parking. The BRA has been responsible for site acquisition, demolition, site preparation, and environmental remediation and the BRA will convey the site to the MCCA for a nominal consideration. The BCEC is being constructed and will be managed by MCCA.

In addition, a plan by the Boston Red Sox to replace Fenway Park, their baseball stadium, with a new facility at the current site and expanded to include adjacent areas, is under review.

HOTEL MARKET

Boston's favorable hotel market over the past eight years has stimulated considerable new development. The number of hotel rooms in the City rose from 6,907 in 1980 to 12,136 as of July 1, 1997, an increase of 76%. Between July 1, 1997 and December 1999 eight new hotels and four expansion projects were completed, adding a total of 1,537 rooms. The largest hotel completed in 1998 was the Seaport hotel, with 427 rooms, adjacent to the World Trade Center on the South Boston waterfront. In 1999 three new hotels and one expansion were completed: the Wyndham Boston Hotel, a 362-room renovation of the former Batterymarch building at 89 Broad Street; The Club by Doubletree near the Bayside Expo Center with 212 rooms; the rebuilding of the Airport Hilton in East Boston with 87 net new rooms; and the 38-room expansion of the Bostonian Hotel adjacent to the Faneuil Hall Marketplace. Two additional hotels were completed in 2000, a conversion of 15 Beacon Street into 61 boutique rooms and a conversion of the former Don Bosco High School into The Club by Doubletree with 268 rooms.

As of December, 2000 three new hotels, representing 473 new rooms, were under construction: a new Ritz Carlton Hotel at the Millennium Place, downtown, with 191 luxury suites; Intercontinental Developments' 190 room boutique hotel, downtown, and the Best Western "roundhouse" conversion in the South End into a 92-room hotel. Applications to construct fourteen new

hotel projects, representing a total of 5,036 rooms, have been filed with the BRA and are currently in the approval process, including a 1,000 room convention center hotel to be constructed by Starwood Hotels and Resorts adjacent to the BCEC. In addition, several other hotel projects have been proposed, but have not yet initiated the approval process.

Between 1992 and 1997, average annual occupancy rates grew steadily from 72.3% to 79.6% and average daily room rates rose steadily from \$117.57 to \$162.72. In 1998 Boston's hotel occupancy rate was 78.6% and average room rate was \$176.59. Total room sales were up by 1.0%, however, despite the small decline in the occupancy rate, because the total supply of hotel rooms increased. In 1999 room occupancy fell slightly to 74.8%, but average daily room rates were up at \$188.82. For 2000, occupancy is back up to 78.6% and the average daily room rate is at \$200.10.

TRANSPORTATION

The City is a major national and international air terminus, a seaport and the center of New England's rail, truck and bus service. The City is served by three limited-access interstate highways which connect it to the national highway system: U.S. 90 (the Massachusetts Turnpike), which leads westward from downtown Boston to the New York State border; U.S. 95, the East Coast's principal north-south highway, which connects Boston to Portland, Maine to the north and New York City and Washington, D.C. to the south; and U.S. 93, another north-south highway, that extends from just south of the City to New Hampshire and Maine. The City is also served by two national railroads, Amtrak and Conrail, a regional rail carrier, Boston and Maine (a subsidiary of Guilford Transportation Industries), and Bay Colony, a local carrier.

Transportation planning includes both major highway and mass transit programs. Federal transportation legislation has enabled the Massachusetts Bay Transportation Authority (MBTA), which provides commuter rail, subway, local bus and express bus services to 78 cities and towns in eastern Massachusetts. The capital improvements program of the MBTA includes projects which have either received federal assistance through the Federal Transit Administration (FTA) or are being financed solely through the proceeds of Bonds. The federal participation ranges from fifty to eighty-five percent of eligible project cost depending on the project or program. The federal funds are awarded under the Transportation Efficiency Act for the Twenty First Century (known as TEA-21) which was passed by

Congress and signed into law in 1998. This legislation provides for a transportation trust fund funded from federal taxes on gasoline purchases which supports the federal highway and mass transit programs. Federal funds are made available to the MBTA by FTA through both discretionary and formula programs. The MBTA has received a total of approximately \$1.040 billion in FTA capital funds during federal fiscal years 1992-1998.

The MBTA's current capital program includes a variety of expansion and rehabilitation projects; its five-year program anticipates an average annual bond spending cap of \$300 million and a total cap of \$1.5 billion over the five-year period. MBTA funds go toward infrastructure improvements and fleet improvements. MBTA capital funds for system improvements go toward relocating and extending rapid transit and commuter rail lines, station modernization, track improvements, and power system/signal improvements. In addition, MBTA capital funds for fleet improvements go toward the ongoing, continuous upgrading of the bus fleet, light rail vehicles, and commuter rail vehicles. The estimated total project costs, both expended and estimated in the future five years total \$6.88 billion of which \$4.60 billion will be funded through bond proceeds and \$2.28 billion will be paid for through federal assistance.

The MBTA is pursuing a vigorous program of renewing and upgrading the bus fleet, procuring new light-rail vehicles, and procuring new commuter rail coaches and their locomotives. As for infrastructure improvements the MBTA has been pursuing system-wide improvements to power substations and power cables as well as improvements to signal systems and system-wide radio communications facilities. Track improvements include the continuous renewal and upgrading of over 350 miles of commuter rail, light rail and heavy rail track. Current projects include the Red and Green Line Tie Renewal as well as the North Station Tower A Project. As for station modernization, an aggressive program to modernize the Blue Line for compliance with Americans with Disabilities Act (ADA) regulations is underway. Also, central subway and surface stations on the Green Line are undergoing renovations to achieve ADA compliance. General upgrading of stations is also ongoing, system-wide, and includes increased lighting, improvements to collector's booths, stairs, lobbies, wall, roofs, columns, and other structural elements.

A variety of specific fixed capital projects follows. Work is underway on the MBTA's North Station Transportation Center Project, which will result in a major expansion and modernization of the North

Station complex. This project is a cooperative venture of the MBTA, the City, and the developer of the Fleet Center sports arena and commercial complex. Construction of an underground parking garage and commuter rail terminal improvements have been completed. The MBTA is in the process of relocating the existing elevated Green Line structure at North Station into an underground station-tunnel complex that will allow for underground transfer between Green Line, Orange Line, and Commuter Rail stations. The MBTA's South Station Transportation Center project, which includes new inter/intra city rail and bus facilities, a fully modernized rapid transit station, and a parking garage above the existing rail terminal, is complete and open. Private development to be developed on air rights above through a cooperative project between the BRA and the MBTA is being considered.

Work continues on improvements to commuter rail services. The MBTA began limited commuter rail service to Worcester and Framingham in the Fall of 1994. Full service will be permitted when all track and signal work is complete. Design and construction of four new intermediate stations in Ashland, Southborough, Westborough, and Grafton are in progress. The MBTA is nearing completion on the restoration of commuter rail service on the Old Colony Commuter Rail line which will provide commuter rail service to several of Boston's South Shore suburbs. Service has been restored on the Plymouth and Middleboro/Lakeville branches which opened on September 29, 1997. Design work on the Greenbush branch began in 1997 with service anticipated in the next few years. In total, 22 new stations will serve a projected 30,000 passenger trips per day. In addition, the MBTA received \$136 million in bond authorization in the 1996 Transportation Bond Bill for the extension of commuter rail service to the Fall River/New Bedford region. The total estimated cost of this project is \$410 million.

The South Boston Piers Transitway project began construction in 1995. The project consists of an underground transit tunnel that will extend from South Station to the World Trade Center in the South Boston Waterfront section of the city. Revenue service is expected to begin in 2003. The MBTA is beginning construction of trackless trolley service on Washington Street between Dudley Square and downtown Boston. Service which will operate in reserved lanes using 60 foot-long articulated low door buses.

The MBTA has a number of additional projects in varying stages of development, some of which may receive federal grants in the future. These federal grants are awarded under TEA-21.

Since 1991, Amtrak has spent \$1.6 billion towards a multi-year high-speed rail infrastructure project, to upgrade the rail corridor between Boston and New York permitting better ride quality, faster speeds, and greater capacity for rail users. A key component of infrastructure upgrades was electrification of the remaining segment of the Northeast Corridor rail line between New Haven and Boston, which was completed in 2000. Massachusetts Electric Construction Co. and J.F. White, two Boston firms, are major members of the team implementing the electrification work. Amtrak began to take delivery on a contract to acquire 20 high speed trains and 15 high-horsepower electric locomotives which, when combined with all other infrastructure improvements, will reduce rail travel time from downtown Boston to downtown New York City to three hours, which is competitive with air travel. The equipment contract also included construction of three new maintenance facilities servicing the trains and locomotives; one of these facilities, completed in 1999, is located in Boston at Southampton Yard. Bombardier ALSTOM won the contract to build Amtrak's new high-speed equipment, using manufacturing sites in Barre, VT, and Plattsburgh, NY. Amtrak has begun to generate significant revenue from high-speed rail service and, based on ridership and revenue projections, was able to secure private financing for 100% of the cost of the new high-speed trains. Congressional appropriations under the Northeast Corridor Improvement Program pay for infrastructure work and electrification. The fully electrified system was up and running in 2000. In early 2000, Amtrak introduced fully electrified *Acela Regional* service between Boston and New York. The trip on *Acela Regional* between Boston and New York is about four hours. *Acela Express*, offers travelers a three-hour 20-minute trip between the two cities; this service began in December 2000.

Water transportation has also become a significant factor in transportation with the Boston Harbor. Currently seven operators provide annual water transit services to approximately 1.5 million riders with ambitious plans for future expansion in the planning stages.

See "Large Public Sector Projects" for a description of the depression of the Central Artery and the construction of a third tunnel under Boston Harbor, two other significant transportation projects in the City.

SEAPORT AND AIRPORT

The Massachusetts Port Authority (Massport) was created by the state legislature to develop and manage the City's major air and sea transportation centers and the Tobin Memorial Bridge over the Mystic River. Massport is financially independent, and the City is not responsible for any debt or other obligations incurred by Massport. Heavy use of Boston's Logan International Airport (Logan Airport) and the Port of Boston has compelled significant expansion of both facilities. Massport's net investment in its facilities through June 30, 2000 exceeded \$1.88 billion, consisting of \$1.35 billion invested in airports and \$550 million invested in the Tobin Bridge, maritime development and other capital spending.

The Port of Boston serves the six-state New England region and beyond as a natural deep-water berth, and provides access to world ports as well as feeder service several times weekly to Halifax, Canada and the Port of New York. The City's port activity includes handling bulk and general cargo, providing ship repair supply services, offering customs and international trading services, providing storage facilities and other commercial maritime services.

The City's port tonnage fell from the 1950s through the mid 1980s as a result of changes in transportation technology and in the regional economy. In 1990, according to the U.S. Army Corps of Engineers, the Port of Boston ranked as the 21st largest American seaport by total tonnage shipped and as the 18th largest American seaport by foreign tonnage shipped. During fiscal 2000 the container terminal in Boston handled 83,400 containers.

The Port of Boston is now a major cruise port which in fiscal 2000 hosted ships carrying 167,000 passengers. The cruise port mainly runs from May through October. In 1996, the BRA and Massport produced a Seaport Economic Development Plan for Boston Harbor which provides policies and guidelines for future development planning along Boston's waterfront. The plan is currently being implemented.

In 2000, Logan Airport was served by 44 domestic and 14 international airlines. In fiscal 2000, Logan Airport served a total of 27.3 million passengers. A 1999 report showed that Logan was the most active airport

**Table 11. Boston Building Permit Revenues and Estimated Potential Construction Activity
Last Ten Fiscal Years, 1991-2000**

Year	Building Permit Revenues ⁽¹⁾	Estimated Potential Construction Activity ⁽²⁾	Estimated Potential Construction Activity Adjusted For Inflation ⁽³⁾
1991	\$ 6,689,380	\$ 786,985,833	\$ 986,195,042
1992	9,136,207	1,074,847,882	1,323,906,961
1993	8,832,324	1,039,096,908	1,232,687,708
1994	9,039,951	1,063,523,647	1,247,701,570
1995	7,629,395	897,575,882	1,023,690,975
1996	11,777,653	1,385,606,235	1,539,372,649
1997	9,199,877	1,082,338,471	1,163,013,670
1998	14,757,703	1,736,200,395	1,827,472,612
1999	11,404,006	1,341,647,713	1,388,655,473
2000	17,922,648	2,108,546,846	2,108,546,846
Total	106,389,143	12,516,369,813	13,841,243,506
Annual Average 1991-2000	\$ 10,638,914	\$ 1,251,636,981	\$ 1,384,124,351

(1) Building permit revenues in current dollars. Columns may not add due to rounding.

(2) Potential construction activity estimated by dividing permit revenues by 0.85%, which is the midpoint between permit fees calculated at 0.7% of the first \$100,000 estimated value of development cost, and 1% for the remainder of development cost.

(3) Estimated potential construction activity adjusted to January 2000 constant dollars (CPI-U).

Note: Only partial data are available for Fiscal 2001 so data are not in the table. Based upon building permit revenues from July 1, 2000 through October 31, 2000

the estimated annual construction potential for Fiscal year 2001 would be \$3.14 billion. Since this is based on only four months of data and is subject to major seasonal variation the data are not reliable enough to put in the table.

Source: City of Boston Auditing Department and Boston Redevelopment Authority's Policy Development and Research Department

in New England, the 18th most active in the United States and the 29th most active in the world, according to the Airports Council International (ACI).

Logan Airport also plays an important role as a center for processing domestic and international air cargo. According to ACI, in 1999 Logan Airport ranked 20th in the nation in total air cargo volume. Between fiscal 1996 and 2000 the total volume of air cargo handled at Logan Airport grew by 18%. In fiscal 2000 total combined cargo and mail volume was over one billion pounds.

In 2000, Massport projected that it would spend about \$2.8 billion during fiscal 1995 through 2005 for ongoing capital improvements to Hanscom Field, Logan Airport, Tobin Memorial Bridge and the port facilities and for improvements and maintenance at various Massport properties. Massport currently expects to finance these projects with a combination of bond proceeds, passenger facility charges, federal grants and internally generated funds. The present plan to add a new runway at Logan airport is in preliminary stage of consideration and review and a further description is given in the section on "Large Public Sector Projects."

CONSTRUCTION ACTIVITY

Since 1960 the public and private sectors have carried out a major expansion of capital construction and investment activity. Private commercial development investment has added approximately 30 million square

feet of office space to the physical inventory of the city since 1960; eight times the amount built in the previous 35 years.

Table 11 sets forth the estimated potential construction activity in the City from fiscal years 1990-2000, estimated as indicated in the notes to the table. It should be noted that the issuance of a building permit and payment of a fee do not necessarily result in construction activity.

Revenue from building permit fees during fiscal 2000 indicated that the estimate of total potential construction activity was \$2.11 billion. Revenue from building permit fees in fiscal years 1990 and 1991 indicated that total estimated construction activity dropped below a billion dollars in the two years. It increased in fiscal 1992, 1994, 1996, 1998, and 2000 after decreasing in fiscal years 1993, 1995, 1997, and 1999. In fiscal 2000, building permit revenues reached an estimated potential construction activity of approximately \$2.11 billion. Data from July 1, 2000 through October 31, 2000 (preliminary fiscal 2001) showed projected building permit revenues at an estimated annualized sum of \$26.7 million, resulting in a preliminary fiscal 2001 potential construction estimate of \$3.14 billion.

LARGE PUBLIC SECTOR PROJECTS

Through the year 2004 the Boston metropolitan area will continue to be the site of several major public

sector projects. In addition to the BCEC described above, these projects include the depression of the Central Artery, the section of U.S. 93 that runs through downtown Boston, which is the key six-lane elevated interstate highway that carries traffic through the City, and the construction of a four-lane tunnel (the Ted Williams Tunnel) under Boston Harbor. At present, the Central Artery connects with the Sumner and Callahan Tunnels, two two-lane tunnels under Boston, which link downtown Boston with Logan Airport and points north. The Ted Williams Tunnel was completed in late 1995 and opened for limited use until the balance of the Interstate 90 extension under the Fort Point Channel is completed. The Transportation Projects, which are intended to improve traffic flow within the City, are under the control of the Commonwealth. It is estimated that the Transportation Projects have employed about 5,000 on site workers and 10,000 auxiliary workers during the peak years of construction in 1998 through 2001.

According to a new finance plan accepted by the Federal Highway Administration on November 29, 2000 with information as of June 30, 2000 a total project cost of \$14.075 billion was stipulated based upon the results of a comprehensive cost and schedule evaluation. Subsequently, on October 23, 2000 the President of the United States approved legislation providing for appropriations for the U. S. Department of Transportation and related agencies for the federal fiscal year ending September 30, 2001. This legislation provides that the U. S. Secretary of Transportation is to withhold obligation of federal funds and all project approvals for the Central Artery/Ted Williams Tunnel Project in federal fiscal year 2001 and thereafter unless the Secretary has approved the annual update of the project finance plan (approval of the October 1, 2000 finance plan not need occur until December 1, 2000) and has determined that the Commonwealth is in full compliance with a June 22, 2000 project partnership agreement and is maintaining a balanced statewide transportation program, including spending at least \$400 million each year for construction activities and transportation projects other than the Central Artery/Ted Williams Tunnel project. In addition, the legislation limits total federal funding to \$8.549 billion, as previously contemplated by the Federal Highway Administration's May 8, 2000 letter. This limit is consistent with the October 1, 2000 finance plan. On November 29, 2000 the Office of Inspector General of the U. S. Department of Transportation found the October 1, 2000 finance plan to be consistent with the Federal Highway Administration guidance and to contain reasonable estimates of the projected cost, funding for the project, and on the same day the plan was accepted by the Federal Highway Administration.

As such, given the cost and federal funding parameters, the share of the project to be borne by the Commonwealth is estimated at \$5.526 billion. The plan for funding the Commonwealth's portion of the debt includes bond proceeds, third party supported expenditures, and revenue from the Transportation Infrastructure Fund.

The Massachusetts Port Authority has developed a long-range capital program of approximately \$3.0 billion for improvements at its facilities, most of which are located in the City. The capital program includes a major modernization of Logan Airport, currently underway, which will include a new double-decked roadway system, a new 3,150 car parking garage, a new public transit terminal, improved walkways, major terminal renovations, a new 600-room hotel, and a new sign system. This capital program also includes non-Logan improvements and privately financed investments at Massport facilities.

The Massachusetts Water Resources Authority (MWRA), an independent state authority, has recently completed the construction of one of the largest wastewater treatment facilities in the nation. This project, which was undertaken pursuant to a federal district court order, was part of MWRA's capital improvement program with a cost of approximately \$3.919 billion (1999 dollars). The project is intended to bring wastewater discharges in Boston Harbor into compliance with federal and state requirements.

The MWRA is planning to spend approximately \$1.9 billion on water and wastewater system improvements over the next ten years to 2011. The largest expenditures will be for the Walnut Hill Water Treatment Plant, improved water storage facilities, and reductions in combined sewer overflows. Relatively small portions of these improvements are located in Boston proper but they should nonetheless provide major improvements in the system infrastructure that serves the City. Projects are funded through state grants and loans and the issuance by MWRA of revenue bonds backed by rates and charges paid by the users. Such rates and charges are expected to continue to increase each year, dictated in large part by increased debt service costs in connection with financing its capital program.

The City is not directly responsible for the costs of any of the above-described projects, although the BWSC, which pays approximately 30% of all MWRA rates and charges, is expected to bear a portion of the cost of the MWRA capital program through increased user fees. The City is currently negotiating with the Commonwealth to receive mitigation payments for any

City services (such as fire and police) which may be required to support the Transportation Projects. No such services are expected to be required for MWRA projects.

The Boston Housing Authority (BHA) is currently undertaking major revitalization initiatives at two of its public housing developments: Mission Main, in the Mission Hill neighborhood of Boston, and Orchard Park, in Roxbury. The BHA received two "HOPE 6" grants from the Department of Housing and Urban Development, totaling \$80 million, to implement a new approach to public housing financing, incorporating innovative partnerships with public and private entities which will leverage additional development funds. These initiatives are designed to revitalize not only BHA sites, but the surrounding neighborhoods as well.

Massport is currently proposing to build a new runway at Logan Airport to enhance the efficiency of operations and to relieve reported flight delays. This proposal is now undergoing environmental review. In the New England region, capital and operating improvements at the five other regional airports have resulted in capacity upgrading and more efficient usage of air traffic operations.

EMPOWERMENT ZONE DESIGNATION

On January 13, 1999, the City was designated an Empowerment Zone (EZ) by the U.S. Department of Housing and Urban Development. This makes Boston eligible to share in proposed federal grants and tax-exempt bonding authority to finance sweeping revitalization and job creation programs over the following ten years. The ten-year EZ designation brings with it \$130 million in tax-exempt bonding authority for qualified projects and \$100 million in grants. Boston is expected to receive \$10 million per year for ten years. To date \$3 million was approved by the Federal government for year one and \$3.6 million was approved for year two. Goals of the EZ include: job creation, business development, home ownership opportunities, affordable housing creation, transit system improvements, computer technology training, and job training and educational efforts. Over the life of the EZ, millions of dollars of investment is expected to be leveraged locally by organizations, including: public institutions, companies, educational institutions, hospitals, philanthropic groups, utilities, and others. Boston's EZ will also give the City priority for other federal programs. The EZ, wholly within Boston, encompasses 5.8 square miles, running north to south right through the center of the City, including parts of the neighborhoods of South Boston, Downtown, the South End, Roxbury, Jamaica Plain, Chinatown, North

Dorchester, and Mattapan. The EZ contains 57,640 residents (roughly 10% of the City's population), has an unemployment rate of 16.1%, and has 43% of the adult (age 25+) population with less than a high school diploma.

Boston had filed an empowerment zone application in 1994 but instead received Enhanced Enterprise Community (EEC) designation on December 21, 1994 by the Department of Housing and Urban Development. As an EEC, Boston receives Economic Development Initiative (EDI) grants which are to be used only within the EEC and are intended to complement and be used in concert with Section 108 Loan Guarantees. EDI grants may be used to write down interest rates on Section 108 loans and to establish a loan loss reserve. The EDI grant makes the City eligible for matching Section 108 funds which can be used as capital improvement loans for commercial or industrial projects that either produce jobs of which 60% are for low and moderate-income residents, or aid in the prevention or elimination of slums or blight, or urgent community needs.

As part of the EEC designation, the City was awarded \$2.95 million from Title XX Social Service Block Grant (SSBG) funding. SSBG funding is used to conduct human service programs that will help connect residents to jobs. These programs include adult job skills training; adult education, including ESL, GED, ABE; alternative education for "youth at risk"; and expansion of Day Care availability. Finally, EEC designation enables development projects or human service programs impacting the EEC to take advantage of certain tax benefits and priority in other Federal funding programs.

In November 1995 the Boston Empowerment Center (BEC) was created as a mechanism to provide small businesses a comprehensive array of financial and technical assistance to help them start and stay in business. The BEC/One Stop Capital Shop provides information and services in many areas, including business start-up assistance, acquisition, loan packaging assistance, help with business plan development, access to a wide-range of capital resources, as well as assistance with marketing plans, government procurement, international trade, technology transfer, market diversification, and language translation. From November 1995 through December 1999, over 4,000 clients have been served and over \$70 million of financing has taken place through this resource.

EEC and EZ resources have facilitated business development financing. Anchor projects totaling over \$40 million include: \$3 million to the Henry Miller

Manufacturing Company; \$6.2 million for the South End Community Health Center; \$15.5 million for the redevelopment of Dudley Center, four buildings in Dudley Square; \$6.8 million for Grove Hall Mall; \$5 million for CrossTown Center; \$3 million for North Coast Seafood and Commercial Lobster; and \$540,000 for Merengue Restaurant on Blue Hill Avenue. In addition, Boston's EEC has utilized the HUD 108/EDI program to maximize the number of newly created jobs for EEC residents. Twelve 108/EDI projects with \$86.7 million of investment will produce or retain over 800 new jobs with 60% going to EEC residents.

In other financing programs, the Boston Local Development Corporation (BLDC) has loaned \$1.2 million to businesses in the EEC, and private banks have provided \$1.7 million in leveraged financing. Another five new businesses are currently planning to move into the EEC through marketing efforts of the BEC staff. Also, five EEC neighborhood business districts have been designated participants in the Main Streets program, which assists businesses in helping become more competitive.

Finally, achievements in human service initiatives are evident as of Spring of 1999. The majority of the \$3 million in Title XX Social Services Block Grant awards was spent on adult basic education courses and job training. In the EEC at large, a total of 392 jobs were created or retained, \$304 thousand in technical assistance moneys were expended, 250 EEC residents participated in skills training, 100 EEC residents took ESL, GED, and basic education courses, 1,450 children benefited from day care quality improvement grants, and 310 additional day care slots were created. Many other human services goals have been met, too numerous to identify, which have benefited the homeless, youth, public housing tenants, child-care services, and alternative education.

Housing development within the EEC has also produced results. The modernization programs for Orchard Park and Mission Main public housing projects are both currently in phased construction schedules. Single family homeowner rehabilitation projects for seniors and through the HOMEWORKS program have begun. Multi-family housing development has produced 14 projects with a total of 304 units with 12 additional projects and 196 units in the pre-development stage.

OFFICE MARKET AND NEW DEVELOPMENT

The City currently has approximately 62.3 million square feet of office space. From 1977 through 1983, local office occupancy surveys reported a consistent

decline in vacancy rates, reaching 2.0% in 1983. In the 1983-1990 period a large new supply of office space was built, but even with healthy absorption new supply outran total demand. Vacancy rates at year-end 1990 were 14.6% after an annual absorption of 583,000 square feet, while 1.9 million square feet of new office space was added. In the 1990-1993 period, new supply still outpaced demand sending the vacancy rate up to 16.1%. Since that time, a quickening economy and a period during which almost no new office space has been added in the City has driven vacancy rates down dramatically.

By the fourth quarter of 1999 Boston's overall vacancy rate according to Spaulding and Slye was reported to be 2.8%. Boston's Class A vacancy rate for the fourth quarter of 1999 was even lower, at 1.9%. In 1999 three office projects were completed: the 400,000 square foot Lafayette Corporate Center, the renovation of a former downtown retail mall into office space; the renovation of the Fargo Building in the South Boston Waterfront district to 480,000 square feet of office space; and the renovation of 220,000 square feet at 255 State Street. In 2000 three additional office projects were completed: the Seaport Center East office tower, a 475,000 square feet building on the South Boston waterfront; the Renaissance Center, a renovation of a 200,000 square-foot office building near the Ruggles Stop on the Orange Line in Roxbury; and, the Landmark Center reuse project in the Fenway which includes 600,000 square feet of office space. The overall Boston vacancy rate as of second quarter 2000 according to CB Richard Ellis was 1.0% which is stimulating a lot of new development activity.

As of December 2000 15 office projects with 4.8 million square feet of new office space is under construction, and is scheduled for completion in the 2000-2003 time period. Five of the office projects currently under construction are new major office towers: 10 St. James at the former Greyhound bus terminal site, a 570,000 square-foot building; 111 Huntington Avenue at the Prudential complex, an 874,000 square-foot tower; 131 Dartmouth Street, a 353,000 square foot tower in the Back Bay; Seaport Center West, a 575,000 square foot tower on the South Boston waterfront, and; One Lincoln Center, a 967,000 square foot tower at the former Kingston-Bedford garage site in the financial district. Five major renovations/expansions and reuses are also underway, representing 716,640 square feet of office space. The largest renovation/expansion is the Independence Wharf project, containing 376,640 square feet of office space. In addition, there are several large neighborhood office projects on-going: Brighton Landing (New Balance) which includes about 400,000 square feet of office space; the Cornerstone in

Table 12. Boston Office Market—Mid-Year 2000

Market	Total (SF)	Total Avail. SF	Total Vacant SF	Available (%)	Vacancy (%)	YTD Absorption*
Central Business District	31,966,741	1,854,378	311,463	5.80%	0.97%	708,379
Class A	22,357,229	1,522,775	154,997	6.81	0.69	455,619
Class B	9,609,512	574,774	364,731	5.88	3.37	261,008
Back Bay	13,232,997	962,648	112,270	7.27	0.85	603,519
Class A	8,105,294	903,727	55,970	11.15	0.69	447,030
Class B	5,127,703	58,921	56,300	1.15	1.10	156,489
Charlestown/East Boston	2,764,286	96,000	17,000	3.47	0.61	(78,365)
Seaport District	3,844,915	638,200	71,200	16.60	1.85	514,492
Mid-Town	2,423,005	69,184	27,184	2.86	1.12	85,881
North Station/Waterfront	2,551,936	16,151	12,415	0.63	0.49	144,240
South Station	1,785,019	9,165	9,165	0.51	0.51	34,732
Dorchester/South Boston	417,280	2,875	2,875	0.69	0.69	5,784
Allston/Brighton/Longwood	3,305,090	453,347	83,866	13.72	2.54	14,179
Citywide Total	62,291,269	4,101,948	647,438	6.59	1.04	2,032,851

* Columns may not add due to rounding.

Source: CB Richard Ellis / Whittier Partners, Downtown Boston Office Market Index Brief, Mid Year 2000

Charlestown, containing 171,000 square feet of office space; and at least four buildings in Dudley Square (Roxbury) which are undergoing a combination of new construction and preservation, including the relocation of the Massachusetts Department of Public Health.

For completion beyond 2003, seven large office projects are in the planning stages: a 580,000 square-foot building at 33 Arch Street behind the old Woolworth's building; a 1.2 million square-foot tower on top of the South Station air-rights; Two Financial Center, a 214,200 square foot building behind the One Financial Center tower; Crosstown, a mixed-use project in the South End containing 256,980 square feet of office space; Hood Business Park in Charlestown, 461,000 square feet of new office space; Fish Pier in South Boston, containing 470,000 square feet of new office space; and Andrew Square, 355,000 square feet of office space in South Boston. In addition there are several smaller office projects, including

reuse projects and renovations, that are being planned. The above projects, if fully completed, would add another 4.6 million square feet to the office supply beyond the year 2003.

RETAIL MARKET

As of 1997, the date of the last U.S. Economic Census, Boston was within the ninth largest metropolitan retail market in the nation, consisting of the City plus the Massachusetts metro areas of Lowell, Lawrence, Salem and Brockton. Of the approximately 10 million square feet of retail space in the City, approximately six million square feet are located in downtown Boston and Back Bay. About 2,262 retail establishments were located in the City in 1997 and had estimated total sales of \$5.6 billion according to the U.S. Census of Retail Trade. According to the U.S. Economic Census for 1992 and 1997 sales increased in Massachusetts, Metro. Boston, and the City of Boston. See Table 14.

**Table 13. Comparative Office Vacancy Rates
20 Largest Downtown Office Markets as of 2nd Quarter 2000**

City	Vacancy Rate	City	Vacancy Rate
San Francisco	0.8%	Denver	6.7%
Boston	1.0	Baltimore	7.8
Seattle	1.0	San Diego	8.2
Manhattan, Midtown	1.9	Chicago	8.3
Oakland	3.2	Philadelphia	10.3
Manhattan, Downtown	3.6	Phoenix	10.5
Washington DC	4.5	Kansas City	17.2
Atlanta	4.8	Los Angeles	17.8
Houston	5.9	Detroit	18.1
Minneapolis-St. Paul	6.2	Dallas	24.2
National Average ⁽¹⁾ 6.3%			

(1) National Average is based on 48 U.S. cities (downtowns) from the CB Richard Ellis Office Vacancy Index.

Source: CB Richard Ellis Office Vacancy Index, Second Quarter 2000.

Table 14. Massachusetts, Metropolitan Boston, and Boston Retail Sales, 1992-1997
(In thousands, not adjusted for inflation)

	Massachusetts		Metropolitan Boston ⁽¹⁾		City of Boston	
	Retail Sales⁽²⁾	Change	Retail Sales ⁽²⁾	Change	Retail Sales ⁽²⁾	Change
1992	\$47,663,248		\$27,058,734		\$4,180,888	
1997	\$65,847,179		\$39,400,608		\$5,607,981	
	5-Year Change	38.2%	5-Year Change	45.6%	5-Year Change	34.1%

(1) Metropolitan Boston in this usage is the Boston PMSA as defined in 1992
(2) Total retail sales includes the new census definition of retail sales (NAICS) from the series of Retail trade plus the "foodservices and drinking places" category from the series of Accommodation and Food Services.
Source: 1992 data from the 1992 Economic Census for Retail Trade. 1997 data from the 1997 Economic Census for Retail trade for retail) and for the 1997 Census for Accommodations and Foodservices (for foodservices and drinking places)

Recent major retail projects in downtown Boston include Borders Books in the old Boston Five building; Marshall's in the former Woolworth's building, and several larger new stores in the Lafayette Corporate Center in Downtown Crossing. Also under construction is a new Sony movie theater complex in the Millennium Place building. In the Back Bay, the enlarged Prudential Center retail mall has been open now for five years, having tripled in size, while the new Niketown building in the Back Bay has recently been completed.

In the neighborhoods, the South Bay Center Mall open 24 hours a day, contains The Home Depot, the first inner-city store for the company, as well as K-Mart, Toys-R-Us, a supermarket and other stores. This center claims to contain some of the highest grossing stores in the nation in an inner-city location. More recently, in the Fenway, the new Landmark Center has been completed, containing roughly 200,000 square feet of retail and theater space. In Roxbury and Dorchester major efforts to redevelop retail business districts in Dudley Square and Grove Hall are showing building activity. There are now 19 neighborhood business districts selected for The Main Streets Program. This program is a public-private initiative of the City established in 1995 to revitalize neighborhood commercial districts through locally established organizations. The program has generated, as of December 2000, 347 net new and expanded businesses, created 2,490 net new jobs, and included 201 storefront improvement projects. As of December 1999, these projects had leveraged \$40.4 million in private sector investment with \$5.5 million of public sector investment. Also of importance are the supermarket developments that have taken place throughout Boston's neighborhoods, a solid sign of investment in the inner-city; nine new supermarkets and two expanded supermarkets are completed and several more are underway.

As of December 2000 there were three major retail developments in construction, including 200,000

square feet of retail and theater space at Millennium Place in Lower Washington Street, three buildings in Dudley Square, which are being renovated with first floor retail space, and a 50,000 square foot retail complex in Grove Hall. A major retail development in the planning stages is Crosstown commercial complex in the South End, which will have retail and theater space serving the neighborhoods.

INDUSTRIAL MARKET AND RECENT DEVELOPMENTS

According to surveys by the Boston Redevelopment Authority (BRA), Boston has just over 25 million square feet of industrial space within the City limits. As of January 2000, according to the BRA, over 5.6 million square feet of industrial space was surveyed and the vacancy rate was found to be 22.5%, with almost 1 million square feet unoccupied. The average rent for quality industrial space was estimated to range from \$2.50 to \$19.00 per square foot (triple net). According to records from the City's Assessing Department, there were 48.3 million square feet of industrial space in 2000, which consisted of manufacturing, warehouse, and research and development.

From 1992-1995, a Cambridge-based biotechnology firm, Genzyme Corporation, constructed an \$85 million biopharmaceutical manufacturing plant in Allston. Genzyme has plans to build further manufacturing, research and development and headquarters facilities on the site during the 2000s.

Certain companies were forced to lay off employees in the mid-1990s because of business strategies and downsizing efforts. For example, Digital Equipment Corporation (DEC) closed its Roxbury plant in late 1993 and Stride Rite Corporation closed its plant in Roxbury in 1997. These plant closings will have eliminated a total of 350 manufacturing jobs, representing about 1.0% of the City's industrial jobs. In 1995, H.P. Hood decided to consolidate its operations in the suburbs and close its Charlestown Plant.

The City purchased the former DEC building in Roxbury in late December 1994. The facility houses the Boston Technology Development Center (BTDC). The BTDC opened an Innovation Center operated by the Massachusetts Biotech Research Institute (MBRI). The Innovation Center can be thought of as a "super incubator" which includes four major components: a physical incubator with shared conference and reception facilities; a relationship with venture capital funding; a technology transfer office which helps locate technologies with commercial potential; and a comprehensive education and training program. The MBRI incubator space is currently fully occupied with spin-off firms. The BTDC is providing many benefits to the neighborhood and citywide including construction jobs, permanent jobs, education and training programs, public school seminars, youth education, and neighborhood workforce development programs. Over \$20 million in venture capital funding is supporting the new companies that are housed at the BTDC—\$5 million in Federal funds awarded to the project leveraged these private funds. Full occupancy of BTDC was achieved in 1998 with the tenancy of HiQ Computers, which took the final 30,000 square feet for the assembly and repair of computer systems. In 1999 the Crosstown site was planned to be developed into a shopping center and theater complex. HiQ Computers will be relocated, possibly to BMIP where they are now looking. The Boston Empowerment Center (BEC) office and MRBI will also be relocated.

There were seven projects completed in the 1995-1997 period: the Advanced Electronics expansion to 110,000 square feet; the expansion of the Boston Freight Terminal in Marine Industrial Park; the American Engineered Components move from Cambridge to Boston; the Zoom Telephonics building doubling in size to 150,000 square feet; Boston Ship Repair's expanded business in Dry-Dock 3 at BMIP; The Harry Miller Company development of 36,000 square feet of space with assistance in Boston's EEC; and, the completion of the New Boston Seafood Center, housing seven seafood companies in a 70,000 square-foot state-of-the-art facility in the Boston Marine Industrial Park (BMIP).

In 2000 there were three major industrial projects completed: the International Cargo Port, a 400,000 square foot warehouse, freight forwarding, and office facility on the South Boston waterfront; North Coast Seafood, a 60,000 square foot seafood processing facility in the BMIP; and the renovation of the J. Baker facility in Hyde Park, to include 400,000 square feet of industrial space for lease.

Currently under construction is an additional seafood processing center, a speculative project by Pilot Seafood on the South Boston Waterfront. In the planning stages is another seafood processing facility on the South Boston waterfront, by Legal Seafood. Finally in South Boston, the ongoing convention center project has displaced 70+ businesses, many of which are industrial uses, and the result has been an extremely "tight" industrial market in South Boston. The BRA is working to relocate firms in buildings within the footprint to insure a smooth transition. See "Large Public Sector Projects," above.

Other industrial projects are also in motion in 2000 around the City. In the Newmarket district industrial area the BRA is considering implementing an economic development plan with industrial uses on the Incinerator site and construction of a surface parking lot and structured parking facility adjacent to that site. The former Hood plant in Charlestown has been the site of some freight forwarder uses moving off of Logan airport with several hundred jobs. Several additional air freight firms are now interested in a South Boston location.

HOUSING STOCK, HOUSING VALUES, AND DEVELOPMENT

The U.S. Bureau of the Census reported in April 1990 that the City's housing stock consisted of 250,863 units. From 1980, the date of the previous decennial census, through 1990, over 9,400 net new housing units were added to the supply. The composition of housing changed. The number of private rental apartments declined between 1980 and 1990, mainly due to condominium conversions. Condominium units increased from about 4,500 in 1980 to over 33,000 in 1990, representing 13% of the housing stock. Units in 1-4 family homes increased between 1980 and 1990, and now constitute over 50% of the City's housing stock. More than 80% of these structures are owner-occupied. Despite the loss of rental units between 1980 and 1990, over 5,000 net new units were added to publicly assisted housing. In 1990, public and publicly assisted housing constituted 17% of the City's housing stock.

Within the City, the U.S. Bureau of the Census reported that the median sales value of a single-family home was \$161,400 in 1990. The U.S. Bureau of the Census also reported that the median contract rent in the City was \$546 per month in 1990, when market rate units and subsidized units were combined. The City's gross housing vacancy rate in 1990 was 9%.

**Table 15. Median Advertised Asking Monthly Rent In Boston Neighborhoods
And The Volume Of Advertised Apartments For 1999 And 2000**

Neighborhood	Median Rent			Volume of Apartments		
	1999	2000	Percent	1999	2000	Percent
Allston/Brighton	\$1,100	\$1,275	16%	560	740	32%
Back Bay/Beacon Hill	1,600	1,700	6	1,326	1,294	(2)
Central	1,800	1,450	(19)	143	158	10
Charlestown	1,488	1,450	(3)	82	75	(9)
Dorchester	1,000	1,164	16	23	30	30
East Boston	800	875	9	12	15	25
Fenway/Kenmore	1,150	1,535	33	54	84	56
Hyde Park	875	973	11	14	10	(29)
Jamaica Plain	1,200	1,300	8	68	85	25
Mattapan	**	**	***	2	2	***
Roslindale	1,000	1,200	20	41	41	(2)
Roxbury	1,075	1,500	40	10	32	220
South Boston	1,200	1,350	13	79	155	96
South End	1,500	1,600	7	111	151	36
West Roxbury	1,050	1,200	14	34	42	24
Citywide	1,400	1,495	7	2,560	2,914	14

** Less than ten sales so data are not deemed to be reliable.

*** Not meaningful.

Source: City of Boston, Department of Neighborhood Development using the Boston Sunday Globe.

with an estimated 6% net vacancy rate (representing units readily available for occupancy).

Boston's Winter (February) 1998 rental vacancy rate was 2.12% according to a survey of members of the Rental Housing Association, a part of the Greater Boston Real Estate Board. A 2000 study done by the Department of Neighborhood Development showed that the median rent for an apartment in Boston as advertised in the newspapers was \$1,495 per month for mid-year 2000 up from \$1,400 at mid-year 1999.

After nearly six years of relative stability, 1990-1996, home prices have risen at a fast pace since the first quarter of 1996. The National Association of Realtors reported that the median sale price of existing homes in the Boston metropolitan area was \$290,000 for 1999, a 12.2% increase over the 1998 median sales price. The third quarter 2000 price of \$356,000 was

18.3% above the price from third quarter 1999.

Within the City residential sales prices have been increasing at a steady clip for the two years, 1997-1999. The median sales price for a single-family home in Boston reached \$209,000 in the second quarter of 2000, showing a strong 35% gain over two years, but still affordable, at 74% of the median metropolitan area price. Condominium prices have also increased from \$179,000 in the second quarter of 1998 to \$221,000 in the second quarter of 2000, a 23% rise.

Banker & Tradesman, a local trade journal, reported that during the full year 1999 there were 6.1% more non-condominium residential sales in the city than there were in the full year 1998 (4,443 versus 4,186) while condominium sales increased by 14.5% over the same period (5,001 versus 4,366). Residential (non-condo) sales for January through October of 2000

Table 16. Greater Boston Annual Median Sales Prices For Existing Homes, 1990-2000

Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Annual Median	Annual % Change
1990	\$177,300	\$176,200	\$175,900	\$165,700	\$174,100	(4.3%)
1991	160,100	171,300	175,500	167,000	170,100	(2.3)
1992	168,200	173,300	175,100	165,200	171,100	0.6
1993	160,500	175,600	176,900	172,700	173,200	1.2
1994	170,600	181,300	187,300	176,600	179,300	3.5
1995	175,100	179,000	183,200	177,400	179,000	(0.2)
1996	197,300	195,300	195,300	177,100	189,300	13.0
1997	NA	NA	NA	NA	229,000	21.0
1998	NA	NA	NA	NA	258,400	12.8
1999	265,000	294,000	301,000	291,000	290,000	12.2
2000	303,000	330,300	356,000	NA	NA	NA

Note: Data for the quarters of 1997 and 1998 were not available from the National Association of Realtors or the Greater Boston Real Estate Board.

Source: National Association of Realtors and the Greater Boston Real Estate Board.

**Table 17. Median Residential Sales Prices for Boston
Second Quarter 1998 Through Second Quarter 2000**

Year	Quarter	Single Family	Two Family	Three Family	Condominium
1998	Second	\$155,000	\$169,000	\$150,000	\$179,000
	Third	172,700	178,500	162,000	158,000
	Fourth	155,000	173,250	165,000	159,650
1999	First	160,000	180,000	170,000	166,463
	Second	180,000	185,000	183,000	180,000
	Third	190,000	200,000	199,000	170,000
2000	Fourth	188,000	217,777	210,000	180,000
	First	195,850	213,000	225,000	205,000
	Second	209,000	234,500	233,000	221,000

Source: City of Boston, Department of Neighborhood Development using Banker & Tradesman data, December 2000

totalled 3,231, or a drop of -12.9% over the same period in 1999, while condo sales also registered a drop with 3,865 sales between January and October of 2000, a decline of -10.7%. When combined, total home sales were 10.4% higher in 1999 than in 1998, but were off by -13.3% for the period of January through October 2000 verses the same period of 1999. The volume of residential and condominium sales are well above the recessionary levels recorded in 1991.

Prices and sales volumes for single family homes and for condominiums show strength and remarkable diversity across the neighborhoods of Boston. Areas of the City with the largest numbers of single family home sales included West Roxbury, Dorchester, Hyde Park and Roslindale. Single family prices ranged from \$125,000 in Roxbury to \$727,500 in the South End with the median at \$206,250 and the typical house going for \$256,500 in West Roxbury, the most suburban-style single family neighborhood within the City limits.

Condominium sales volume and prices also showed strength and diversity across the neighborhoods of

Boston. The most expensive neighborhoods for condos were in the Back Bay/Beacon Hill, Charlestown, South End, and Central (downtown, including the North End, the West End, and the waterfront) neighborhoods which are the core residential pockets of the City. Three neighborhoods still had "affordable" condominiums with the median price at or below \$105,000. The median citywide condo price at mid-year 2000 was \$215,000, up 23% from the \$175,000 price of the same time in 1999. Sales volume was down by -4%.

Residential development, which was very slow during the regional recession 1988-1992 and for two years after, increased slightly from 1995 through 1998. Market-rate housing development has accelerated in 1999 and 2000 when Boston permitted 2,105 and 2,655 units of new and rehabilitated housing, respectively. In 1999, 788 of the housing units were market rate or luxury units and in 2000 1,643 were market rate units. Major residential projects now under construction include: Millennium Place (250-300 units), Wilkes Passage (136 market rate units and 19 affordable units), Davenport Commons in Roxbury

Table 18. Annual Residential and Condominium Sales in Boston 1990-1999

Year	Total Residential Sales ⁽¹⁾	Percent Change	Total Condominium Sales	Percent Change	Residential and Condo Sales (2)	Percent Change
1990	2,559	—	2,242	—	4,801	-
1991	2,472	(3.4%)	2,063	(8.0%)	4,535	(5.5%)
1992	2,553	3.3	2,217	7.5	4,770	5.2
1993	2,960	15.9	2,450	10.5	5,410	13.4
1994	3,804	28.5	2,668	8.9	6,472	19.6
1995	3,883	2.1	2,746	2.9	6,629	2.4
1996	4,000	3.0	3,396	23.7	7,396	11.6
1997	4,153	3.8	3,912	15.2	8,065	9.0
1998	4,186	0.8	4,366	11.6	8,552	6.0
1999	4,443	6.1	5,001	14.5	9,444	10.4

(1) Total residential sales mean all single and multi-family residential properties but not condominiums.

(2) Equals total residential sales plus total condominium sales.

(3) NOTE: Between January and October 2000 the data were as follows compared January through October of 1999: total residential sales 3,231 versus 3,709 (-12.9%), total condominium sales 3,865 versus 4,328 (-10.7%) and the grand total 7,096 versus 8,037 (-13.3%).

Source: Banker and Tradesman

**Table 19. Short Term Trends in Housing Prices, Median Sales Prices and Sales Volume of Single Family Homes
In Boston's Neighborhoods, Mid year 1999 and 2000**
(Not adjusted for inflation)

Neighborhood	1999 Single Family Price	2000 Single Family Price	Percent Change	1999 Sales Volume	2000 Sales Volume	Percent Change
Allston/Brighton	\$248,000	\$269,500	9%	41	24	(41%)
Back Bay/Beacon Hill	**	**	***	4	3	***
Central	**	**	***	1	1	***
Charlestown	25,000	364,000	12	33	31	(6)
Dorchester	42,000	169,000	19	117	91	(22)
East Boston	05,000	126,750	21	21	20	(5)
Fenway/Kenmore	**	**	***	3	0	***
Hyde Park	47,000	180,000	22	105	94	(10)
Jamaica Plain	35,000	395,750	68	37	36	(3)
Mattapan	16,500	158,900	36	30	32	7
Roslindale	68,500	215,000	28	85	80	(6)
Roxbury	88,500	125,000	41	21	33	57
South Boston	09,000	245,000	17	25	38	52
South End	**	727,500	***	9	10	***
West Roxbury	25,250	256,500	14	149	139	(7)
Citywide	72,500	206,250	20	681	632	(7)

** Less than ten sales so data are not deemed to be reliable.

*** Not meaningful.

Note 1: These prices exempt all sales of properties of less than \$10,000 and greater than \$1,000,000 because those data distort the data mainly because the low price sales are not considered to be "arms-length" transactions.

Note 2: These are not "paired-sales" so the size, quality and type of houses sold vary from year-to-year.

Note 3: Sales volume eliminates those sales mentioned in note 1 and also eliminate sales for properties that were not able to be accurately "geo-coded" for location so actual neighborhood and city wide totals are higher.

Source: City of Boston, Department of Neighborhood Development, and December 2000.

**Table 20. Short Term Trends in Housing Prices, Median Sales Prices and Sales Volume of Condominiums
In Boston's Neighborhoods, Mid Year 1999 and 2000**
(Not inflation adjusted)

Neighborhood	1999 Condominium Price	2000 Condominium Price	Percent Change	1999 Sales Volume	2000 Sales Volume	Percent Change
Allston/Brighton	\$112,500	\$129,000	15%	267	257	(4%)
Back Bay/Beacon Hill	\$279,000	\$351,363	26%	418	360	(14%)
Central	\$229,500	\$286,750	25%	180	177	(2%)
Charlestown	\$227,500	\$321,000	41%	176	131	(26%)
Dorchester	\$79,000	\$105,000	33%	93	101	9%
East Boston	\$74,000	\$77,450	5%	18	22	22%
Fenway/Kenmore	\$129,500	\$169,600	31%	158	130	(18%)
Hyde Park	\$99,950	\$77,500	(22%)	26	18	(31%)
Jamaica Plain	\$144,000	\$175,000	22%	143	137	(4%)
Mattapan	\$143,000	\$80,250	(44%)	17	10	(41%)
Roslindale	\$96,500	\$144,200	49%	42	61	45%
Roxbury	\$98,005	\$138,000	41%	24	47	96%
South Boston	\$159,900	\$190,000	19%	185	165	(11%)
South End	\$255,000	\$319,000	25%	322	368	14%
West Roxbury	\$122,500	\$126,000	3%	66	63	(5%)
Citywide	\$175,000	\$215,000	23%	2,135	2,047	(4%)

Note 1: These prices exempt all sales of properties of less than \$10,000 and greater than \$1,000,000 because those data distort the data mainly because the low price sales are not considered to be "arms-length" transactions.

Note 2: These are not "paired-sales" so the size, quality and type of houses sold vary from year-to-year.

Note 3: Sales volume eliminates those sales mentioned in note 1 and also eliminate sales for properties that were not able to be accurately "geo-coded" for location so actual neighborhood and city wide totals are higher.

Source: City of Boston, Department of Neighborhood Development., December 2000.

(185 units of market-rate and 75 units affordable), Tremont Towers (108 units), and The Bellvidere at the waterfront (120 units), 226 Causeway Street at North Station (86 market rate units and 22 affordable units), Park Plaza 2 (100 condominium units), Colonnade Residences (99 units), Baptist Elder Housing in Beacon Hill (71 market rate units and 8 affordable), and Minot Hall in the South End (44 units). In addition, smaller market-rate residential developments are also occurring.

New affordable housing developments are also underway. Of the 2000 total of 2,655 housing units permitted for new construction or rehabilitation, 1,012 of the units were considered "affordable" for low – and middle-income families. Affordable housing currently under construction and under going site preparation work include Davenport Commons in the South End (75 units), Parcel 32 C (Rollins Square) also in the South End (123 units), respectively. In the planning stages are the Foley building in Mattapan (116 units) and Parcel 6 in the Fenway (27 market rate and 54 affordable units). There are several other projects in planning stages not mentioned here.

THE LINKAGE PROGRAM

The City implemented its development linkage program in December 1983, in order to direct some of the benefits of downtown investment to the building of affordable housing in its neighborhoods. Under the program, real estate developers seeking approval of large scale commercial or institutional developments are required to enter into agreements obligating them to make "linkage payments" in the amount of \$6.58 per square foot of construction over 100,000 square feet, of which \$1.09 per square foot goes to a job training fund and \$5.49 per square foot goes for housing purposes.

Linkage payments into the Neighborhood Housing Trust are amortized over a period of either seven or twelve years, depending on the date of the initial agreement. Under Trust policy, current agreements provide for a seven-year payment period. The seven-member Neighborhood Housing Trust (NHT) holds public hearings and approves linkage grants to selected projects, except for the housing creation option, which requires approval by the BRA. Since the inception of the linkage program through June 2000, \$53.0 million has been collected, and \$48.2 million of these funds have been awarded to various affordable housing projects.

Prudential Center (60 units). Major projects in the planning stages include: Battery Wharf on the Through data for 1999, funding allowed the construction or renovation of 4,883 housing units in 70 projects in the City's neighborhoods. Affordable housing units for low and moderate-income residents comprise 84% (4,098 units) of this total. Of the 70 housing developments created, linkage funds, for the most part, accounted for fewer than 30% of the total development cost of the project. Only in one instance did linkage funds almost completely fund the project. In the past, linkage money generally was allocated to fund low and moderate income housing through the renovation of old buildings and schools as well as to assist in the creation of new housing. Projects have included rental units; single room occupancy such as housing for pregnant, homeless women and alcohol recovery programs; condominiums; housing cooperatives and home ownership.

Funds for the Neighborhood Jobs Trust (NJT) come from Jobs' Linkage Fees of \$1.09 per square foot for every foot in excess of the 100,000 square-foot threshold. This component of Linkage came from the 1986 amendment to the legislation and was followed by the creation of the NJT in 1987. Payments are made in two parts, with one half due at the point a building permit is issued, and the balance due one year later, or upon the issuance of an occupancy permit for the building. Over the 1988-2000 time period \$8.4 million of funds had been committed and \$5.8 million of funds have been awarded resulting in the creation of 66 programs. Services funded under this program include: model program designs for school-to-work transition, family literacy, workplace-based education, private sector involvement in the design and delivery of services, and capacity building in impacted communities. The NJT is particularly interested in supporting new and innovative education and training activities which result in high wage employment, new or non-traditional employment opportunities, and community based projects that respond to specific communities' documented education and training needs. The NJT is committed to providing appropriate services to the residents of neighborhoods where (or adjacent to where) a given development project is located, while ensuring that residents throughout the City have access to new jobs resulting from development. In addition to the \$5.8 million awarded, approximately \$400,000 has been spent on administration, bringing total expenditures from the NJT to \$6.2 million.